The Builder.

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The Two "Salons" at Paris.

WE have waited till the Champ de Mars Salon was open as well as the old one, to make some review of the French art of the year. Neither collection is equal to that of last year, and the result seems to show decisively the mistake, in an artistic sense, of the division in the camp. The new Salon is the more refined collection, and by far the pleasanter to look at from the less crowded hanging and the lower level to which the pictures are kept. At the old Salon there is the usual enormous expanse of paintings, and more than the usual proportion of things which are odd, uninteresting, or simply bad, though of course a considerable number of fine things can be picked out from this large collection.

The immense space covered is partly due to the great size of some of the works. These huge canvasses seem to grow larger every year. Some of these are decorative pictures for public rooms, others seem painted as immense *tours de force*. The most justifiable of these is M. J. P. Laurens' "Voute d'Acier," commemorating the reception of we forget what eminent personage (the catalogue is silent on the subject) at the Hôtel de Ville of Paris, where an arch of crossed swords is formed by men standing in a parallel row up the steps. This is painted in a flat fresco-like style suitable for mural painting, and is a very fine work, rather spoiled (decoratively) by the great space taken up in the foreground by the steps and the rough railing put up them, which is not an effective foreground object. M. Rochegrosse's "Mort de Babylon," on the other hand, is a gigantic easel picture, containing some superb painting of architecture and (of course) a heap of sprawling women in the foreground. Its power as a painting however is undeniable. M. Aubert's "Saints Patrons de la Vie des Champs" is a painting in wax intended for the apse of Notre Dame des Champs. This is a group of people bringing various offerings of cattle, flowers, and fruit to a central altar; a young girl in white, with a lily, kneeling in the centre. The figures are rather deficient in individual interest, and the whole composition entirely conventional, but on that account the better suited for its intended position. M. Ferrier's ceiling painting for the French Embassy at Berlin, "Glorification des Arts," is one of the old-school ceiling paintings with figures flying all over it and with little meaning, but it is bright and certainly decorative, and its tone of colour suitable for a ceiling. M. Rouffet has made a great painting which is evidently popular on patriotic grounds, "La Fin de l'Épopée," representing an incident of the Battle of Waterloo evolved from the historical imagination of Victor Hugo, viz., the failure of the last charge of the French cavalry from their coming on an unexpected ravine or ditch, into which they rolled over on each other before they could pull up, and which accounts for the final issue of the battle. A diptych painting by M. Vimont for the decoration of the Salle des Mariages (we presume) of the Mairie of Lilas, "La Jeunesse: la Famille" is one of those realistic mural paintings which have come a good deal into fashion in Paris of late, and which to our thinking are not decorative or mural painting in the true sense. Among these large paintings is one truly poetic work by M. H. T. G. Martin (a pupil of J. P. Laurens), "Chacun sa Chimère." A file of typical personages, "condemned for ever to go on hoping," march across a sandy waste, in the midst of them a great white-robed figure of Hope with wings pointing upward. A man in the front rank carries a Victory and laurels, a monk by his side looks upward in aspiration; a mother walks behind nursing her child—that is her "chimère," and some far sadder examples follow. What the French call the *facture* of the painting is odd, misty, unreal, perhaps purposely so, to keep it out of realism; but the idea is fine and impressive.

What the French paint at present is of interest to note, as well as how they paint it: their range of subjects is certainly wider than ours. We do not know however, that the increasing habit of painting life-size scenes of everyday life, with no attempt at pictorial effect, is quite the best use to make of a large expanse of canvas. This is an increasing tendency at present. In the new Salon, for instance, is a huge painting looking up the interior of a terminal railway station, with a few passengers and porters walking down the platform, and the front of the locomotive facing the spectator; it is well done, but who is the better for it? In the old Salon we have a typical example of the class, in M. Bramtot's "Le Suffrage universel," the interior of a bare office, with a few figures standing about voting or preparing to vote; the types of classes represented are well studied, but pictorially it is a bare and uninviting work. Of the immense number of figure pictures of various types merely a few can be picked out here, nor is it very easy to classify them except to a limited extent. Of figure paintings of the more ideal type M. Bouguereau has two, pretty and sentimental as usual, "Premiers Bijoux," a girl of the golden age making earornaments of cherries handed to her by her lover, and "L'Amour mouillé," Cupid sheltering under the trees from a shower. Both are of course admirably drawn and of an ivory prettiness of texture and tint (the colour of Cupid's arsenical green trees, however, rather sets the teeth on edge), but both belong to the region of learned mediocrity: M. Bouguereau gets always to a certain point of excellence, never (or very rarely) beyond it. As to the other figure studies, there are two distinct reasons for painting "the nude," one the representation of the material beauty of the living body, coupled with the painter's interest (little understanded of the people) in mastering the greatest difficulty of his art; the other the use of the abstract human figure in poetic ideals with which the materialism of dress has nothing to do. There are plenty of studies in the Salon, no doubt, that come, as far as we can see, under neither head. Among those of the first class, in which the simple painting of the figure is the object, one of the finest is M. Benner's "Jeunesse," which is a beautiful piece of work: and another admirable picture, of a very different class of execution, is M. Layraud's "La Sculpture," a half-draped female figure at work on a statue; a sketch for a decorative panel for the Salle des Arts at the Hôtel de Ville, though this perhaps should be classed with ideal figure painting. Among the purely poetic figures are M. Henner's

"Pleureuse," remarkable for the fine rich colour of the whole, figure, drapery, and background; M. Lefebvre's "Nymph Chasseresse," M. Berthault's "Dernier Nuage de la Mist," a floating figure with a dusky veil behind it, fine in line, painted with a certain mistiness and reticence which removes it entirely into the world of idealism, and M. Boyé's "Crépuscule," in which a half-lighted figure stands with her back to the spectator, among trees and in front of a moonlit pond, figure as well as landscape resolved into the uncertainty of twilight. A critic of a cynical frame of mind might perhaps say that this method of treatment avoids some of the principal difficulties of figure painting. This is poetry of a kind, however; so is Mr. Fantin-Latour's "Tentation de Saint Antoine," a reminiscence of the feeling and grouping of Titian in a much subdued key. M. Gervais' painting of the "Saintes Maries," landing from a boat in which they had been cast adrift, according to we know not what curious legend, is ludicrous as a conception; the idea of a "Sainte Marie" in the coquettish figure getting out from the boat is too absurd, though there is a fine broad style and originality of colour in the picture. M. Bonnat's "La Jeunesse de Samson," Samson rending the lion, offers an example of a vigorous study of the male figure, but the lion is more vigorous still, and in a conflict of muscular force it is mechanically impossible that man could pull about that lion as he pleased; the painter has taken an ordinary strong young man as his model, whereas Samson should have been represented as almost supernatural in his development. Albert Dürer's treatment of the subject comes nearer the mark in this respect; but Albert Dürer had imagination, while modern painters are so anxious to follow a model correctly that they too often leave imagination to take care of herself.

Among the great variety of the other figure pictures a few of the best only can be noted in passing. M. Beaury-Saurel's "Travail" is an interesting and pictorial work representing a young woman seated before an easel reading, with a white canvas, on which is seen the first sketch of a picture, as the background to her warm buff dress. It may be a portrait, but artistically it is an incident of pose and colour. M. Bertaux "Leçon de Violoncello" is another of those pictures in which one or two figures are planted in the middle of a large floor-space; a boy studies a difficult passage before his teacher, straining his whole attention on his task; this seems to be a studio of all arts, for at the back is a stretcher with a very large architectural perspective lined in, and to the left is a young man on a ladder at work on a large picture. M. Bloch's painting of Franc-tireurs in the snow engaged in pulling up the rails for the wreck of a hostile train, is one of the best of the war pictures of the year. In "Le Laminoir" M. Bordes has endeavoured to make a picture out of the operation of welding steel coils on a gun. M. Bontigny's death of General Raoult at Woerth is another good battle picture, and the large painting by M. Brouillet of the Comédie Français in 1870, made use of as a hospital, is an interesting bit of history, the corridors of the building, with their festive architectural appearance, forming the setting to a series of wounded victims of the war. M. Chevilliard's "Une Repetition" is an admirable little study of character, a choir of children and girls to whom a stout priest beats time. In "Un Membre du Conseil des Dix" M. Debras has painted a study of a powerful aged head of a man otherwise enveloped in a scarlet gown. "Un Asile de Nuit" by M. Geoffroy, is another of the large paintings of every-day life, an interior of what would be called here a woman's casual ward; this is a fine work with both pathos and character in some of the figures. M. Gérome, whose lion hunting amid a desert landscape we noticed last year. has followed this by a large rocky landscape in the foreground of which is a "Lion aux Aguets"; at first sight the work seems to have little in it, but it grows upon one on study; this savage beast in the foreground, the one living creature in the landscape, has an ominous effect, though it is not equal to the hunting lion of last year. M. Haquette's "Le Premier Embarquement du Mousse" is a picture a little reminding one of Mr. J. C. Hook, in general feeling and motive; the figures in the foreground are well studied and characteristic, and there is a freshness in the scene which we certainly do not find in all French sea-coast painting of the day. M. Lecomte-de-Mouy's "Le Dieu et la Mortelle" is stated to be "fragment d'un triptyque sur l'amour," and is a work which in style and colour somewhat carries us back to the days of Ingres; it represents Jupiter in a kind of semi-human disguise grouped with Baucis as the "Mortelle," the colouring is of a warm and effective but somewhat commonplace type, the picture is interesting as a kind of survival of a past style. Mr. Lehoux's large picture of "Ulysse et Télémache" looks like a study for tapestry in antique style, and is eccentric enough even from that point of view. Ulysses and his son sit beneath the walls of a kind of model house, which might be timber, canvas, stone, or anything; around is a waste surface of ground on which a Noah's ark kind of dog and some tufts of Noah's ark vegetation are planted here and there at random. This is a curious example of the eccentricities into which some French painters are now wandering apparently in the endeavour to find some new outlet for painting; the picture suggests the idea of being a joke, though a somewhat large and formidable one. M. Letourneau gives us in "Le Salle des Titres du Credit Foncier de France" another example of the large painting of everyday scenes; it is more finished and composed, perhaps than "Suffrage Universel," but little is made of the expressions or characters of the waiting people; it is simply the scene as you might see it any day on casually looking in. This is a kind of reaction against sensationalism, no doubt; but if respectable and safe, it is certainly, from an artistic point of view, dull. We may just mention among other works M. Lematte's "Le Dernier Voile," an admirable piece of figure painting; M. E. Luminais' "Fin d'un Roman," a duel scene in which both figures and landscape are finely treated and seem to help each other out in giving the melancholy impression of the story; Mdme. Luminais's small "St. Michel Chassant Lucifer du Ciel," a fine bit of drawing of the falling angel; M. Micheléna's large painting "Combat d'Amazones," a tumultuous mass of horses and nude figures, showing great ability but withal not very interesting; Mr. Pearce's "Un Enterrement Civil," a very pathetic work and showing a great deal of study of character in the figures of the peasant women seated in the foreground (the artist is an American by birth and pupil of M. Bonnat); M. Pezant's "Vache Blanche au Bord de la Mer," a fine piece of animal painting; M. Roy's "Le Reveil, lendemain de Solferino," not a first-class military painting, however, at least not for a French artist; Mr. Swan's "Maternité: lioness and cubs," which has been seen in London, and is one of the best works in its way in the Salon; M. Vibert's "Cordon bleu," which seems to have great popular attraction, and is a most brilliant piece of cabinet painting; and last but not least M. Tattegrain's beautiful work "Vérotières au petit jour," the only one from his hand. This represents an expanse of dark shore with figures digging on it, uncertainly seen as shadows carrying lanterns. The effect of the lantern light is given with remarkable reality, and the picture is perfect as a study of a special effect, but one rather expects something more than that from M. Tattegrain.

Among portraits, the finest of the year is perhaps M. Cormon's "M. Gérôme," who is represented standing, clad in a grey coat and painting on a small sculptured figure set on a table before him; the face looks out of the canvas as if at some object the painter is copying from, a thin nervous eager countenance; a very fine portrait of a great artist. M. Benjamin-Constant sends a grand-looking portrait of Mdme. Benjamin-Constant, in black velvet, the costume and head alike painted with great power, though it may be thought that the costume forces itself rather too prominently on the attention. M. Delaunay's large portrait of Cardinal Benadou in his robes is a study in reds with a rich crimson curtain in the rear, a Romanesque column, part of a church, is an accessory. The effect of the draperies is to make the face rather cold, this would be so in reality, but possibly should have been amended in painting. M. Dieudonné's "M. W. . . , Consul de France," is a fine example of portraiture pure and simple. M. F. Flameng sends a sumptuous portrait of "Mdme. P. . . .," descending a staircase, clad in a rich satin dress, the hands and arms beautifully drawn, the pose of the figure noble; a carved sphinx surmounts the stair-newel. Among other noticeable works are M. D'Issoncourt's "Mdme. la Comtesse . . .;" M. Maurice Jeannin's portrait de "M. G. J. . . . ," very much of the modern school, a man seated with his hat on, on a high stool in the middle of a bare floor and with a white wall behind, from which the figure stands out strongly; M. Lemeunier's small portrait of M. Detaille at work on a ladder in his studio; M. Mengin's "J. Baudry," a fine painting of a boy with a dog; M. Munkacsy's rather staring portrait of "Madame B———" in a light primrose dress with a yellow cloak—a leaf out of the book of Carolus-Duran; Mr. C. S. Pearce's full-length portrait of a lady in dark dress attaching a flower to her corsage; M. Saint-Pierre's of the "Comtesse Edgard de T———" in an Arabian costume, a most brilliant piece of work of its kind; and another highly decorative portrait by Mr. Julian Story, "Mdlle. Eames," in a dress rich and very harmonious in colour.

The mischief of French landscape painting, to our thinking, is the want of sunlight. There are brilliant (in every sense) exceptions this year, and the State seems to be bent on accentuating this quality in landscape, having purchased several of the most sunlit works. Among these (not so purchased, however) is M. Bourgeois "Pâtures Normands," a beautiful glade with sunlight shining through the trees, and M. Cagniart's "La Neige sur les Buttes Montmartre," a snow-covered slope with the house-roofs seen below, a very real work. M. Dupré's "Un Chemin au Mesnil" purchased by the State, is a very powerful work, looking up a lane with old barns in the foreground, the buildings painted with great power, but the whole in keeping; the same artist's "Dans l'Herbage," a cattle picture, is equally full and broad in execution. The State also possesses M. Dufour's "Pont St. Bénézet, Avignon"; there are one or two other Avignon paintings, topographical rather than pictorial. M. Fauvel, in "Les Fonds de Beaurepaire," reminds one of De Köning in the treatment of the distance. "Plein Midi, Auvergne," by M. Gagliardini, a State purchase, is a nook of a landscape, with white houses under a strong sunlight, very forcibly rendered. M. Leenhardt's "Un Soir en Galilée," with figures representing the walk from Emmaus, and his "Au Petit Jour Levant," are fine landscapes of rather solemn feeling; and "Sur la Falaise, à Étretat," by M. Le Poittevin, is a fresh and breezy coast scene. M. Olive's "L'Île de Maïre, environs de Marseilles" shows rocky islets in very strong sunlight, contrasted with a sea rather too deep in colour for the bright light on the land; it is the kind of thing Mr. Brett has sometimes done, but cannot claim to equal him. Another State purchase, "Verdun" by M. Petitjean, is a fine picture of the kind: an irregular mass of old houses rising above the river. M. Vauthier's "Bassin de l'Arsenal" is a Paris picture purchased by the city; not remarkable. M. Hareux "Nuit d'Août," a town scene, is a brilliant effect of moonlight. M. Japy's "Soi-d'Octobre" is an example of what we complain of in many of these large French land-

scapes of the day; it is a fine scene, but a dead green on the hills and no look of air or light. M. Quignon's "Les Regains" is a fine work of a class of which there are good examples in our own Academy, an expanse of field and rank vegetation; it is not a beautiful scene, but there is truth and breadth of treatment in it. M. Renouf sends a great hard picture of Brooklyn Bridge in evening light, striking mainly from its size. The sea paintings generally are more ambitious than successful. We doubt if French painters turn sailors and study the sea in all its aspects as ours now do. M. Chigot's "Perdus au Large," a great picture of a boat and men in a rough sea, gives the situation and movement of the boat powerfully, but the water has not the consistency or surface of water. "Pendant le Tempête," by M. Maillard, is another tremendous storm scene, a collision of a steamer and ship, in which the sea is finer, but the whole thing rather sensational, and the ships badly drawn. We may mention, in the rather questionable field of decorative landscape, M. Le Liepvre's "Un Coin de Luxembourg—panneau pour l'Hôtel de Ville," in which the problem of reducing a garden scene to a decorative treatment has been fairly done.

The exhibition contains a few splendid pieces of still-life painting; M. Fouace's "Dejeuner de Chasseurs" and "Ma Chasse," a game picture; and M. Monginot's "Dans l'office" and "Dans la cuisine." The beauty of these last is that they give not merely realism, but realism combined with a kind of exposition of how painting can handle such subjects; there is no attempt at illusion, but a fine broad, bold, translation of the qualities of light, surface, and colour of the objects represented, into pictorial effect. M. Rouby's "Après le Nettoyage" represents the sublime of great shining copper vessels; and M. Vollon, in "Argenterie," glorifies the work of the silversmith in the same fashion.

In sculpture there is the usual number of exhibits, but alas! what a falling off from last year, an absolute catastrophe. The sculpture collection last year was a splendid one, but the impulse does not seem to have been renewed, and the number of works of high interest is very small. M. Falguière has a beautiful "Diana," a nude figure following with her eyes the arrow just discharged, with the beautiful type of small and *spirituel* head in which this sculptor's female figures are quite unequalled; but it is not quite equal to the noble "Juno" of last year. There is however nothing else to name with it in the Salon. M. Allar's group of Jeanne d'Arc and her patron saints, for the new basilica at Domrémy, should hardly be judged except in its intended position; it should have a fine decorative effect there. M. Bartholdi's "Alsace et Lorraine se réfugiant au pied de l'autel de la Patrie," two seated back-to-back figures holding children, is a respectable piece of decorative sculpture, not inspiring. Among other things may be mentioned M. A. Boucher's colossal nude figure of a man digging, "A la Terre," a figure of considerable grandeur and energy; M. Chapu's kneeling figure of "Cardinal de Bonnechose," with gilt crosier beside him, the drapery fine, but it is rather a difficult subject for a sculptor to render interesting; M. Cordier's colossal equestrian statue of General Lasale, in which the cavalry uniform is very much at variance with sculptural requirements; M. Delaplanche's kneeling figure of "Eve avant le Péché," a finely-modelled figure; M. Delhomme's colossal statue of Carnot; M. Ferrary's "Phryne," remarkable for the characteristic expression of the head, which distinguishes it from mere average nude statues with classical names; M. Houdon's "Repos de Diane;" M. Holweck's "Vestale allant au Supplice;" M. Laoust's "La Musique," a draped figure with lyre, fine in action; M. Levasseur's monument to Comte, a pedestal with bas-reliefs and a seated figure of the bilious philosopher on the top; and the same sculptor's nude figure called "Inspiration." One cannot quit the sculpture without a word of indignation against M. A. Paris's screeching figure of Danton for the intended monument at Paris,—one of the worst and most vulgar pieces of monumental bronze sculpture we ever had the misfortune to see.

At the Champ de Mars Salon sculpture has been charmingly provided for in a great glass-covered garden court in a part of the building formerly consisting of picture-galleries, the intermediate floors and partitions having been removed. Unfortunately the show of sculpture is meagre in quantity and of little interest generally in quality. Nor has the promise of a gallery of decorative art been carried out, about which so much was said. There are a few objects in pottery and silversmiths' work, &c., scattered about the galleries, but nothing of any special interest. The central point of the Champ de Mars Salon, where the pictures of each artist are for the most part grouped together, is the splendid collection of portraits by M. Carolus-Duran, who may be called the Vandyke of the present age. This is not the most intellectual class of art, certainly; but the Parisian aristocrat lady in all her armour of gorgeous attire is nevertheless an object well worth painting, and providence clearly appointed M. Carolus-Duran to paint it. All the portraits are fine, both in the brilliant execution of the costumes and in the fine pose of the figures; there are nine of them, among which perhaps we may prefer to all the "Miss L——," presumably either an English or an American lady, but very Parisian (or Parisienne) in style and physiognomy; she stands, her head a little posed on one side, with drooping right-hand holding a bunch of flowers, dress a delicate pink, with crimson curtain for a background; a model of a portrait *de luxe*. The finest one next to this is a portrait of "Mdme. C——," a seated figure in light primrose-tinted satin with a grey furred cloak, and again the favourite crimson curtain in the background. The same care is visible in all the portraits; none of them are slurred over or hastily painted, which, alas! cannot be said of all portraits by our most eminent portrait-painter. In the midst of these glories of silks and satins the painter has shown what he can do without their assistance, in his nude "Danaë," as fine in colour and execution as any of the clothed figures.

The end of one gallery is occupied by M. Puvis de Chavannes' large decorative picture of "L'Été," for the Hôtel de Ville. The painter has succeeded in giving a fine decorative treatment of landscape, the massive cluster of trees in the centre is very fine, the bathing figures in the foreground are not very beautiful or interesting. The painter has two other decorative pictures of more realistic class, "La Poterie" and "La Céramique," for the staircase of the Musée Céramique at Rouen. These are figures of men and women engaged in pottery work, and are pleasing, hardly more. We fear "Puvisme" is rather on the decline, but it is not every painter who can claim to have invented and led a new style for nearly a generation. We can only glance at a few others of the prominent works. M. Jean Béraud has made a curious experiment in what may be called moral painting in his "La Madeleine chez le Pharisien." This is the scene, "Let him that is without sin among you cast the first stone at her," transferred to modern life; a dining-room round which are collected an admirably-studied group of men of fashion and position; every countenance is a separate and individualised study, but among them is seated the figure of Christ in flowing garments and with the nimbus round His head, and at his feet falls a woman in brilliant modern dress! It may sound absurd, but the effect is powerful and pathetic; and after all does not the painter suggest a very pregnant thought—what would be the attitude and feeling of Christ towards modern society of the more fashionable and self-indulgent class? Curious as the medley seems, the effect of the work justifies it. This is a small cabinet work, very highly finished. Among the large paintings, which also find their place here, is M. Binet's "La Sortie," a scene of the Siege of Paris, a crowd accompanying and cheering the march out of some troops. This is a success; it is real without losing decorative character. This painter is also the author of the railway station picture before referred to. M. Chabas's two decorative pictures for the Mairie of Montrouge, "Repas Nuptial" and "La Famille" are good in a decorative sense, but most of the figures in the first-named are unredeemably vulgar; people who—

> "Hold a high position in the lower middle class."

In the "Famille" the young mother seated on the grass with her infant is a very pretty figure. M. Dagnan-Bouveret has an admirable work, "Les Conscrits," four or five conscripts following a boy with a drum and tricolour, their countenances seen in profile one behind another. M. G. Dubufe's two decorative panels, "La Cigale et la Fourmi" are clever, but rather *clinquant* in colour. M. Friant's "Ombres portées," two figures with their shadows on the wall, is clever and original, and his portrait of the two Coquelins admirable. M. Gervex's ceiling for the Hôtel de Ville, "La Musique," is too absurd. At the foot of the composition are the heads of persons in the stalls of a concert-room; above is a big woman playing a violoncello in the clouds, and surrounded by flying figures. M. Gilbert calls his painting of a goods railway station decorative, which is just what it is not; it is meant for the Salle d'Audience of the Chamber of Commerce, but will never look well as a wall-painting. M. Lerolle gives us a flight into Egypt with a very real group of figures and donkey in a very real landscape, but followed by a troup of flying angels; the two parts of the picture do not belong to each other. M. Marest's "Jeune Femme Dessinant" is evidently in reality a portrait, but treated as a picture interior with figure, with great effect and fine colour.

Among portraits, other than those already mentioned, attention should be directed to M. Boutet de Monvel's curious but very effective "Portrait de Jeune Fille"; M. Carrière's oddly-composed and affected but very clever portrait of M. Alphonse Daudet; the group of portraits by M. Courtois; M. Sargent's splendid "Portrait de Jeune Garçon," a model of fine free execution and life-like expression—why does he not always paint like this? A collection of small portraits by M. Weerts is also well worth attention.

There are some lovely little landscapes which find a more fitting home in these galleries than in the more crowded collection of the old Salon, where they would be killed. Among these is M. Rixens' coast scene "Les Graves d'Houlgate," a beautiful landscape, and a couple of small sea paintings, better than anything of the kind in the old Salon. M. Dauphin's paintings about Toulon give very vividly the glare of the light southern sunlight. Mr. Harrison's sea paintings are really remarkable; he is a New York artist who may (or does) run Mr. Henry Moore very close, which no French sea painter could do, as we believe the French admit since they made the acquaintance of his works in the 1889 Exhibition. There are two fine works by Mr. Moore himself.

The new Salon is interesting and inviting as a contrast to the old; fewer pictures, often more delicate and refined, and pleasanter and better-lighted galleries. But it does not seem to attract visitors away much from the other gallery, and the rooms on the day of our visit were very empty. It must be added that things seem to be admitted, to fill up space, which it is almost an impertinence to hang in any first-class exhibition, and if the "Salle des Refusés" contains worse things than these, it must indeed be a chamber of horrors.

The best thing we can wish is that the two Salons should unite again, and then proceed to reduce the numbers and raise the standard for the future. The rivalry has a bad and not a good effect on both exhibitions, and leads to the lowering of public taste by hanging many works that are not worth the honour.

A NEW WORK ON TESTING.

IT is a long time since so remarkable a contribution has been made to engineering literature as Mr. W. G. Kirkaldy's book on "The Strength and Properties of Materials." It is remarkable because while it contains so much that is useful and instructive, the information is unfortunately so much combined with purely personal considerations. It is to be very much regretted that the author should have thought that this was a fitting opportunity to ventilate what he and his father consider grievances, for in so doing he has detracted very seriously from the value of his work. Wherever it is possible to do so, the author refers to the complete and conscientious manner in which work entrusted to his firm is carried out, and and he evidently considers it necessary to take every opportunity to direct the reader's attention to the fact that "there has never been any shirking of the work under the plea of being tedious and guessing the amount, as appears, most unfortunately, to be far too frequently done elsewhere." In describing his own work, the author says, "Such a collection of original data is practically unique,—certainly very different from the usual style of others, when compiling books upon the 'Strength of Materials,'" and many similar pharisaical expressions are to be found throughout the book. We are told so much about the faithful discharge of professional duties, and Mr. Kirkaldy's considerations of his moral procedure, that we feel somewhat relieved when the author informs us that on one occasion his father "overruled his feelings of delicacy," because this seems to indicate that at one time such feelings actually existed, although it is a source of regret that they were not hereditary.

The chief grievance complained of appears to us to be stated by the author in the following words:—"It undoubtedly has been, and remains still, a disappointment to Kirkaldy that his services have never been acknowledged in any form; he was the last to expect a monetary reward, but certainly had hoped that his further researches would have been promoted by the many who benefited so enormously by his labours." It could hardly be expected in a book of this description that professors of engineering would escape notice, and the author seems to anticipate "a general conversion of technical laboratories from purely educational uses, into establishments where outside work is undertaken and charged for." We think many will agree that professors of engineering are not the best persons for making such tests as are required in every-day practice, and that it would be better if they did not undertake such work.

The author objects, and we think not without cause, to the way in which some engineers specify that tests are to be made "by Kirkaldy or by ——," inserting an additional name, and there can be no doubt that it would be better to decide in the first instance who is to make the tests, and not leave it optional to the contractor, who very possibly will get the work done in the cheapest manner.

Our space will not permit us to consider other injuries of which the author complains. We are very willing to acknowledge that Mr. Kirkaldy has done much useful work during his lifetime, but it must not be forgotten that his operations have been carried on as a commercial undertaking, and judging from appearances with financial success, and in our opinion the author's tedious account of what he considers his father's grievances is as uncalled for as the references to his abilities as an experimenter.

We now come to the technical portion of the book, which it is hardly necessary to say is most instructive, since it represents the chief results arrived at by Mr. David Kirkaldy during a quarter of a century. The records of about 12,000 different tests are given in a series of fifty-two reports, printed and arranged in an admirable manner; indeed, it would be almost impossible to speak too highly of this portion of the work. In addition to the reports there are twenty-five plates, giving drawings of the specimens tested, and other information. If we were to attempt to notice the chief points of interest to be found in this part of the book we should have to go systematically through the whole of the reports, but we must content ourselves by mentioning only a few of them. A test described by the author on page 12 has a particular interest just at the present time owing to the collapsing of the railway-bridge on the Brighton line at Norwood Junction. Mr. Kirkaldy tested specimens cut from a cast-iron girder which had been subjected to railway traffic for thirty-three years, and the results obtained proved that in this instance, at least, the metal had undergone no change during the long period the bridge had been in use. A similar series of tests were carried out at the author's works upon rivetted wrought-iron girders taken from a railway-bridge at Willesden Junction, London and North-Western Railway. The results of the several tests are very fully given in two detailed reports, and it appears that although trains had been running over this bridge for twenty years no change could be detected in the iron by any of the tests, and that it had not changed from the fibrous to the crystalline state.

A very complete series of experiments on steel rails is given, showing their strength under bending stresses, as well as under ordinary tension, and the tests made and recorded on the full-size links of the Albert and New Hammersmith bridges are also most instructive. The specimens taken from thirteen rolled joists supplied by Messrs. Dorman, Long, & Co., show a very high quality of material, the average strength being 28 tons per square inch, with an ultimate extension of nearly 29 per cent. in 10 in. The report giving the result of many tests on ordinary timber will be found useful, as it gives the strength of several large specimens under both bending and compressive stresses.

At the end of the work the author has added an historical sketch, giving an outline life of his father, and dealing at some length with his professional career, but the chief value of the book is to be found in the fine collection of experiments above referred to, which will be of great interest both to architects and engineers.

NOTES.

WE regret to hear that, up to the time of our going to press on Thursday afternoon, there is no prospect of averting the threatened lock-out of carpenters and joiners in London. The following circular was issued to its members by the Central Association of Master Builders on Thursday:—

"31, Bedford-street, Strand, W.C.,
London, May 21, 1891.

SIR,—I am desired by the Committee to say that as the firms struck against have not been able to meet their requirements, it will be necessary to carry out the resolution come to at the meeting on May 11 last, and close all shops and jobs to carpenters and joiners on Saturday, the 23rd inst.

Kindly let me hear on Monday how many men in your employ this notice has affected.

The Committee also desire me most earnestly to impress upon you the extreme importance of united action in this matter.

I am, sir, yours truly,
E. S. HENSHAW, Secretary."

We trust that, even at the last moment, counsels of moderation and conciliation may prevail.

AT the last sitting of the House of Commons Standing Committee on Law, Mr. Ritchie (President of the Local Government Board) explained that Clause 34 of the new Public Health Bill, which was then under consideration, would apply not only to underground rooms or dwellings to be built in the future, but to those now existing. He pointed out that under the present law in London, basement dwellings need not be more than 1 ft. above the ground, but in the provinces every room built previous to 1875, was required to be at least 3 ft. above the ground, and the Act of that year entirely prohibited the occupation as a dwelling of any room not completely above ground. In the metropolis, he further explained, there was a very great amount of unhealthiness in connexion with such underground abodes, and clause 34 as it stood provided that any room not let separately as a dwelling before the passing of the Bill should not be let or occupied unless it was 7 ft. high from floor to ceiling, was at least 3 ft. above the ground, and had in the front an area of 4 ft. in width. With respect to existing underground dwellings, to meet certain objections to the original clauses, Mr. Ritchie proposed modifications giving to the Sanitary Authority instead of to the County Council the power of granting exemptions, and to any person to whom an exemption was refused, a right of appeal to the Local Government Board. He also proposed to modify the clause so as to provide that any room not let or occupied before the passing of the Bill might be less than 3 ft., but not less than 1 ft. above the ground, if the width of the front area was equal to the depth of the room below the surface. With these, and some minor amendments, the clause was agreed to.

THE Board of Trade railway rate proposals are remaining but little affected by the inquiry before the Parliamentary Committee, most of the amendments introduced last week being, as before, overruled. The first question dealt with after the ten days' adjournment caused by the prevailing epidemic was the charge for fractions. The original demand of the railway companies was for fractions of a quarter of a ton to be charged for as a quarter of a ton. The revised schedule only authorises them to charge for quarters of *cwts.* as quarters of cwts., except in the case of consignments weighing over five tons, in which case the original proposal is adopted. In spite of this great difference, the traders' representatives asked for a further reduction, the effect of which would be to charge for each 14 lbs. instead of each 28 lbs. The traders are not really so insatiable as this request would appear to indicate, inasmuch as it embodies the system which has been in practise for the past ten or twelve years. The amendment was, however, rejected. The clause relating to empties,—which, it may be remembered, we characterised as most peculiar,—was admitted by Mr. Courtenay Boyle to be one which the Board felt a difficulty in defending; as, although the drafting of the clause had occupied them a considerable time, it hardly effected what they desired. As it stood, much elaborate calculation would be required in every case in order to get at the sum actually authorised; and the subject presented so much difficulty to the Committee that the consideration of it had to be deferred. Finally, a scale of charges for empties was adopted, commencing at 3d. per cwt. for distances below twenty-five miles. This is a great concession, the existing scale being considerably higher, and to firms who deal with returned packages on a large scale it will make a considerable difference.

ON Saturday last the so-called "international" Electro-technical Exhibition was opened at Frankfort-on-the-Main, in presence of the Dowager Empress Frederick and her court, the former Mayor of the city, now Prussian Minister of Finance, reading the address. The exhibition, which is expected to prove a great success, was, however, by no means ready on the opening day, and is scarcely likely to be so for six weeks hence. We may refer to those parts of the exhibition which directly or indirectly pertain to architecture or the building trades at a later date. For the present we will only mention that the idea of having this exhibition originated with the Frankfort Electro-technical Society, at a general meeting in November, 1889, in which

Herr Sonnemann made some propositions in the form of a preliminary programme. This programme was adopted and kept to in most points, a Committee elected, and placed under the presidency of Herr Sonnemann, Herr Oscar von Miller being appointed as Vice-President and Technical Manager. The honorary presidency was accepted by the former Mayor, Dr. Miguel, now Minister of Finance; and five distinguished electricians, Werner von Siemens (Germany), Von Waltenhofen (Austria), Marcel Deprez (France), S. P. Thompson (England), and Edison (America), consented to act as honorary members and advisers. The usual system of awarding diplomas will not be adopted at this exhibition. A special body of examiners, elected partly by the Managing Committee and partly sent by the Government, divided into eight sections, according to the subjects, will, however, act as a jury on the exhibits, and will have the duty of making a full report on every exhibit in the grounds, thus compiling a publication which is likely to contain some valuable information.

WHILE the general characteristics of Oxford remain the same, continual changes are taking place in particular details. Quite recently the ceiling of the hall of Lincoln College was removed and the roof restored. During the coming Long Vacation, we understand that the present windows of the hall are to be removed and Gothic ones substituted for them. The existing windows are comparatively modern, with square heads, and it is intended that the new ones shall be similar to those which from old drawings were either actually in the building or intended to be there. The work is to be done under the direction of Mr. T. G. Jackson, and it is, we believe, owing to the patriotism of former members of the College that funds for the purpose have been forthcoming.

THE Central Direction of the Prussian Archæological Institute have wisely decided on a formal change in the issue of the *Antiken Denkmäler*, to which we have so often had occasion to refer. It is to retain its present form of five numbers, with twelve plates each, making up the single volume, but is no longer to be a yearly publication. This seems very wise in the case of a work which consists mainly of magnificent plates which require extraordinary care in their reproduction. Moreover, nothing is more tiresome than the habit, grown with most archæological periodicals to a confirmed vice, of never being "up to date." The numbers will now be issued when they are ready, and, according to the pressure of archæological material. The contents of the present number are various and valuable. We have full-sized plates to illustrate Dr. Sauer's article on the Parthenon pediments, to which we drew attention last week, and some very careful sketches of the fragments of sculpture still actually *in situ* will interest archæologists. Plate 51 is devoted to a plan of the newly-discovered temples at Locri (in Calabria). The ground-plan of the two successive temples is clearly made out, and even in structure of the smaller and older temple two periods of building are differentiated. To architecture also is devoted plate 50, which gives beautiful coloured facsimiles of portions of archaic marble cornices. In the department of Sculpture we have a very fine reproduction of the much-discussed archaic statue, attributed by some to Antenor. Its relation to the inscribed basis is dealt with afresh, but we are glad to note that the uncertainty of the relation (pointed out by the Director of the English School at Athens) is now frankly admitted. From the Locri temple we have (plate 52) a very remarkable fragment of a sculptured group, a horse and horseman, the horse supported on the figure of a sea monster. It is conjectured that this may represent one of the Dioscuri coming over the sea from Sparta to the assistance of the inhabitants of Locri.

A VERY interesting paper by Mr. R. H. Thurston on the "Permanent Effect of Strain in Metals," and a good discussion on the subject, is to be found in the *Transactions of the American Society of Engineers* for March. The author points out that if a metal is subjected to a stress of any given kind sufficient to produce a permanent strain and set, then its ultimate resistance to that or any other kind of stress will be sensibly increased, and in all directions. This fact, of course, has been long known, but it has never been illustrated by such conclusive experiments as described by Mr. Thurston. Much was said during the discussion about using iron in structures after it had been stressed up to its elastic limit, and it was generally admitted that no injury was done to the metal so strained. In England there are many engineers who, if they knew it, would reject iron or steel so stressed, overlooking the fact that plates and bars have to be "cold-straightened" before they can be used for structural purposes, which process is nothing more than stressing the metal beyond its elastic limit. Mr. D. J. Whittemore stated that when renewing some railway bridges, he had felt perfectly safe in taking some of the ties, which had stretched several inches, from the old bridges and using them again in the new bridges, although with a moderate stress. In connexion with this subject, we think the suspension-links of the former Hammersmith Bridge teach us an important lesson. These links, which had, no doubt, been overloaded in their original positions, were used for temporary purposes during the erection of the Forth Bridge, and some were found to be so brittle that they not only broke under a very low stress, but while being simply handled, so that it was considered necessary to anneal the remainder before making use of them. In the same volume Mr. R. L. Harris describes how he constructed a coffer-dam or caisson without the use of timber or iron. Having occasion to build upon an existing masonry pier situated in some 28 ft. of water, he succeeded, by grouting, not only in rendering the sides of the pier water-tight for a depth of some 6 ft. below the water-line, but in making at this level a water-tight floor also, so that the interior of the pier, which was of very inferior quality, could be removed and the new work built in its place.

THE site of Nos. 8 and 9, Soho-square, upon the northern side, will shortly be cleared for the erection of the new Eglise Réformée (Huguenote) Française de Londres, after the designs of Mr. Aston Webb. This will replace the church in St. Martin's-le-Grand, which Owen designed in the Gothic style, and which was consecrated by the late Pasteur G. G. Daugars. Having been finally closed on May 29, 1887, it was shortly afterwards pulled down, together with Angel-and Bull-and-Mouth streets, the "Queen's Hotel," and other premises, for the Post Office extension buildings. What, we are informed, are known as the Nonconformist congregation, who now occupy Soho Chapel, 73, Oxford-street, for temporary purposes, had migrated to St. Martin's-le-Grand upon the demolition of their church, St. Mary's, in Threadneedle-street. That church stood upon the site of the old St. Anthony's Hospital and School,—an important school in its day, and the place of education of Whitgift and Sir Thomas More. St. Anthony's Hospital was suppressed *temp.* Edward VI., who gave to this community of the earlier Huguenots a charter, dated July 24, 1550, and established them in close proximity to Austin Friars, which had been assigned in that same year to the Dutch refugees for a place of worship, as the king's own diary records. Foreign Protestants had many churches in Soho and its immediate neighbourhood; among the more important of these were "Le Temple," originally in Berwick-street (1689), and since in Wardour-street; "La Charenton," by Newport Market; the chapels in Leicester-fields and Glasshouse-street, Golden-square; "Les Grecs" in Hog-lane (Crown-street), the scene of Hogarth's painting, "Noon"; and the Swiss Chapel in Moor-street, the site of the old French Exchange. Moreover, a colony of Dutch, German, French, and Scotch workmen settled at St. Martin's-le-Grand as early as Queen Elizabeth's reign, and it is said that there, within the sanctuary limits, some silk-throwsters from Flanders found their first abiding-place in London.

AS the question of street accidents in London is occupying the attention of the authorities, it would be well that some measure were considered whereby the street "refuges," which ought to be multiplied, should not, as is often the case, be made, as it were, traps for the unwary. In some thoroughfares where a policeman is not on duty vehicles pass on the wrong side. The foot passenger, who is naturally looking towards the side from which carriages ought to come, may thus meet with an accident by trusting too much to the very refuge which was erected for his safety. The fact is that severe penalties ought to be placed on these offences. It is useless for the authorities to make constructive improvements in the streets if the benefit which may be obtained from them is nullified by the culpability of drivers of vehicles.

THE southern and western blocks of the old parochial almshouses for St. Martin's-in-the-Fields, in Chapel-place, Charing Cross-road, have been pulled down. Formerly known as the Hog-lane almshouses, these are stated by some writers to have been founded by Nell Gwynne,—we know not upon what authority, nor is her name cited in the several inscriptions that were set up there, and which Hatton quotes in his "New View of London," 1708. The almshouses, consisting of six separate endowments, and since standing within St. Anne's parish, formed an entire quadrangle around an area in which stood the Greek church, consecrated in 1677, and latterly known as St. Mary the Virgin, Soho. Nell Gwynne died in 1687. The founders' names (where given) and the dates of the buildings are as follow:—East side, since removed: by Mrs. Grimes, or perhaps Graham, for four unmarried women and their servant, built and endowed in 1686. South side: Ten houses by Peter Griffith, George Giles, and the parish Vestry,—in 1683. West side: Four houses, with money committed to Dr. Tenison, the then vicar, "by persons who desire to have their names concealed,"—in 1680. North side (site of the Board schools): One house inscribed thus: "This Alms-house, Numb. 13, was built Anno 1684 at the Charge of one of his Majesty's Justices of the Peace and an Inhabitant of St. Martins in the Fields," reputedly, says Hatton, one Captain Dewy; three houses by the private charity of divers parishioners,—in 1685; and two more, built and endowed by Sir Charles Coterel, Master of the Ceremonies to Kings Charles II. and James II. During the period 1680-7. Nell Gwynne was living in Pall-mall, in St. James, Westminster, parish, as taken out of St. Martin's in 1684; so, if she did give any money to these charities, she must have done so for the west group of four houses in 1680, and anonymously. St. Anne's, Soho, was taken out of St. Martin's parish in 1686. A recent addition to the eastern end of the old Greek church was made by, we are told, Mr. W. Slater and Mr. R. H. Carpenter, architects. A water-colour view of the almshouses by T. Hosmer Shepherd, painted in 1854, is in the Crace Collection, British Museum.

IT would be curious if one could know the influences under which some of the letters printed in the *Times* get acceptance in that journal. On Monday, for instance, we find a letter protesting against the application of Board of Trade rules to a new little line of railway in Wales, in which we presume

the writer is a shareholder. This gentleman observes that:—

"On the Western American roads crack trains like the "Fast Flying Virginian," the "Overland Flyer," the "Nellie Bly," or the "Pacific Cannon Ball,"—I am not defending their titles,—make their thirty or forty miles an hour every day in perfect safety without a single Board of Trade appliance (except the necessary one, in an unfenced country, of a good continuous brake), and this over single lines whose construction would turn an English railroad man's hair grey with terror."

Do they do it in perfect safety *every* day? If so, then how is it we get such frequent reports of terrible railway accidents in America, from the overturning of trains and the breaking of insufficient bridges? It is true, unfortunately, as we had occasion to point out in a review of a book on American railroads a little while since, that the American engineers by their own admission frequently make roads and bridges in so haphazard a manner as almost to prepare for accidents. We have hitherto been above this in England, but a shareholder can apparently get the use of the *Times* for the purpose of recommending that the same course should be adopted on English railways, and the lives of passengers endangered to save his money.

THE death of Mr. Thomas Collier, announced in another column, will be a great loss to the Institute of Painters in Water-Colours as well as to the world of art generally. For a long time he was almost the only member of the Institute of Water-Colours who upheld the dignity of the old school of broad and freely-handled painting in pure water-colour, without body colour, of which David Cox was the acknowledged head. Mr. Collier's drawings had a certain resemblance to Cox's in style, especially in his treatment of the sky. For many years his drawings formed central objects at the Institute Exhibitions, and were among the things we always looked for first in visiting the Exhibition. They will leave a gap on the walls not easy to fill up.

WE quoted last week some remarks from a French paper (the *Courrier de l'Art*) in regard to the opening of museums on Sunday in England, and the satisfactory results in regard to the Sheffield Museum, as compared with the system of closed doors in London museums. A further comment on the subject is suggested by the course which is taken at the Paris Salon. A visitor to the Champs Elysées last Sunday afternoon would have seen, as he approached the Palais d'Industrie, two long lines of people, four or five deep, extending on each side from the central door of the Exhibition, waiting quietly for their turn for entrance, while the turnstiles at the door kept up an unceasing "crick, crick," like a sewing-machine at work. These people were not only allowed to enter a picture gallery on Sunday, but were admitted *free*, the Salon on Sunday after mid-day being open for any person in the street to turn in who likes. The crowd inside was naturally very great, but perfectly orderly and well-behaved, and apparently much interested in the pictures. As to the religious question, all these people might, if they wished, have been to church in the morning, but in the afternoon they can go to the Exhibition instead of being left to their own resources for finding entertainment. Surely the contrast between London and Paris in this respect is worth serious consideration.

APPOINTMENT.—At a meeting of the Corporate Property Committee of the Leeds County Council, held on the 15th inst., Alderman Baker presiding, Mr. J. T. Irvine, who has had charge of the work that has been carried out during the last few years at Peterborough Cathedral, was appointed clerk of the works at Kirkstall Abbey, where considerable alterations are shortly to be made in the way of strengthening walls and so on. Mr. Irvine will work under the direction of Mr. Micklethwaite, architect, of London.

STAINED GLASS.*

THE keynote of this window is the dignity to which our human nature has been raised by its being adopted rather than any other nature by Christ, and His choosing to be "born of a woman." I have, therefore,† placed the Virgin and Child central between the two great Archangels and a little raised above them, whilst below the three is the Dragon enemy, with his head beneath the foot of the "Woman's Seed," to whom Michael points as the source of the power by which he has struck him to the ground: "*The Lord* rebuke thee." To strike another note in contrast, I have placed in the two side-lights our nature in its fall,—Adam and Eve. These lights I have kept darker in tone in order to throw into prominence an arrangement suggested to me by hearing of the patron's wish, rather late in the day, that the events of the Virgin's life should also be introduced. I have separated the colour-scheme of the window into two parts, and treated the three central lights and the tracery above as a canopied shrine containing the three great figures, and into the architectural part have introduced, in the form of sculpture, intended to have the appearance of relievos in silver, the incidents of the life: in the base of the central light the Annunciation; in its canopy the Visitation to St. Elisabeth; in the four canopies of the tracery above, the Nativity, Presentation in the Temple, Mary at the foot of the Cross, and Mary in the house of St. John, *spinning*, to draw a comparison with Eve in the lancet below, our common lot of labour and its dignity. The canopy ends in an architectural crown, the crown of our human nature and the Virgin's life; she is received into Heaven by her Divine Son.

But you may well imagine that the influence of love upon one's work does not end with the projecting of it, but models and informs it at every step through all the doing of it, and I have, therefore, reserved till now a description of several methods which do not form part of the ordinary practice of stained glass-work.

First, I may refer to the subject of working from the life. That, however, *is* becoming the practice now, for a good reason, that the public will no longer stand the crude angular horrors of the Early Gothic revival. I may pass over the subject lightly with the remark that, of course, the practice ought to be universal and constant. The Almighty expects us to study His works and to learn them, and never to think in our conceit that we have sounded the whole depth of their beauty, and that for the future we are chartered preachers of it to the crowd of outer Philistines, and can serve it up to them re-cooked in our own dull brain. There is an idea abroad that our business as artists is to teach. It may possibly be so; I do not feel it very forcibly, but I beg to record my entirely positive conviction that our never-ceasing business is to *learn*. Now, take this figure of St. Michael. I made five studies of the nude figure from two different models before I could please myself. I got them enlarged to the full size, and then had the model again, and drew a complete life-size study of the figure; but that was only the beginning. What to do for armour? Well, the practice is, of course, to borrow it out of costume-books, or hire a suit of old armour. But I have always found that all fancy and beauty in design, all the essence of a thing, comes to one only in the course of actual construction,—we must handle with our own hand. Now, as the forging of armour is a lost art, and of course was out of the question, I had to do the best I could, and for days and weeks both I and my assistant devoted ourselves to making a suit of armour with layers of paper, pasted one over the other to the thickness of a crown piece, using the actual limb as the block to mould it on. Of course, the general principles of construction were studied from actual armour; but you can have no conception what a light such a practice throws upon the questions of what is possible, what is wearable, and therefore of what is useful and beautiful. In moulding the joints for the elbow, knee, or shoulder, moving the limb constantly, of course, you see, in a way that no study of books could tell you, what forms must be adopted to defend the joint in all its actions, and what curves must be used to turn aside the most probable blow or thrust; in short, by the time we had made it, we knew how to wear it, and did not feel like "hogs in armour." I have brought you, as an example, the helmet we put together, and I beg to tell you it was difficult enough to draw its subtle curves when made, and to have invented them out of one's own head would have been simply impossible.

The next practice I have to allude to as reasonable, and to deplore as rare, is that the artist should himself paint on the glass. Here is the same figure finished and ready to be put into the lead. Every bit of that glass has passed through my hands at least five times, every bit has been painted under my own supervision, and touched by myself at all stages wherever touching was necessary.

I will now illustrate a third practice by a reference to the same panel. Does it not strike you that the upper part of the figure is, for some reason, less agreeable to the eye than the lower? You may have noticed it without detecting the reason. I will point it out. As far as here you see I have put opaque lines at the back of the plate to represent the lead lines as they will appear in the window. You would think that everyone *must* paint so; that it would be impossible to paint surrounded by lines of glittering light (the sky seen through the interstices) pieces of glass ultimately intended to be seen surrounded by dark (the black of the lead line). Strange to say, whenever this obviously reasonable proceeding has come under the notice of my glass-painting friends, they say they "should think it must be rather a good dodge." What can I reply but that I should think so too?

Then, again, I constantly see windows intended to go 20 ft., 30 ft., 40 ft., or more from the eye being carried out and painted to their ultimate finish, without ever going more than 3 ft., 4 ft., or 5 ft. from it. I have knocked out a door in the extreme gable point of my studio, up to which, sometimes a dozen times a day, with ropes and pulleys, I slung the easel, which weighs over a hundredweight, and if I did not do this I simply could not paint at all.

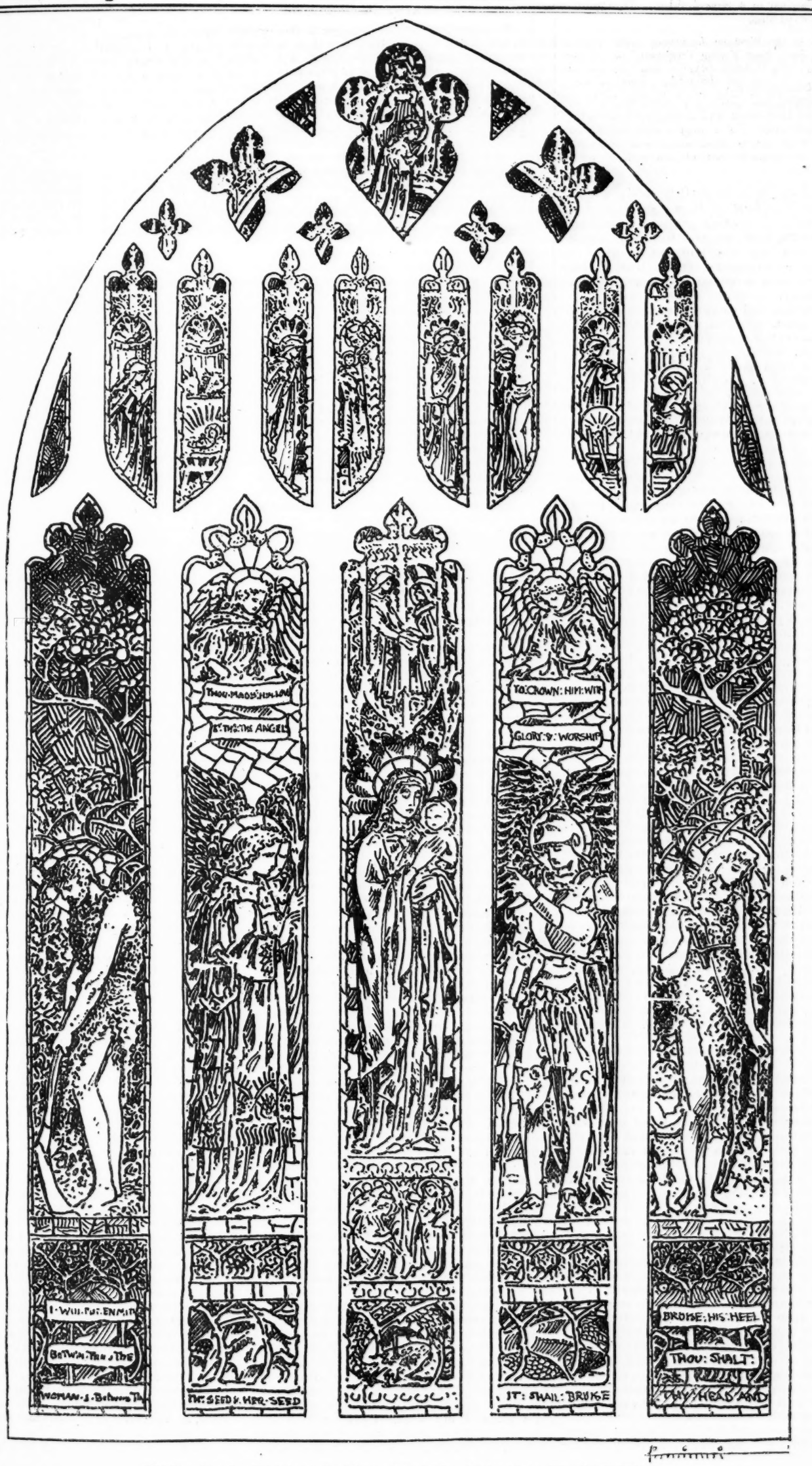
But the practice of all others which I should have thought could not be dispensed with by any one, and is dispensed with, as far as I know, by every one, is that of choosing the glass by a sketch made *in glass*, not by a sketch made on paper. The ordinary practice is to make a water-colour sketch, and then on the cartoon to write the numbers which correspond with those by which the various coloured glasses are known to the cutters in the cutting-room. Now, to me this is just as if Titian or Veronese had designed their pictures in one room, and handed over their palette to an assistant in another room, merely numbering a cartoon in spaces, "Venetian red," "ultramarine," "yellow ochre," and leaving it to chance how the colours looked when they came together. Here is the kind of sketch in glass by which I think they should be chosen, but not content with that, I go to the racks in the cutting-room and pick the pieces out of the sheets myself, to make sure of having the right depth of tone, and to avail myself of accidental qualities in the glass, which often occur, and are often beautiful.

Well, here are the results of all these processes. Of course, I do not claim to have achieved much by them,—pains and care are not genius,—but at least I may claim to have tried, and no amount of genius will cover the loss of one iota of possible pains and care, for all that is possible in these is also necessary. However, it is painful and uncongenial to me to dwell on this contrast between what is and what should be, and I should not do it at all if no useful end could be served by it. But you may some day chance to be placed in the position of patrons or members of some committee, by whose judgment a piece of art patronage will be distributed: I have, therefore, endeavoured to show you what stained glass is, and should be, in order to direct your judgment; but I will try and bring the thing closer home to you.

You have seen somewhere a window that pleases you, and you wish one erected by the

* A paper read before the Liverpool Art Club, on February 2, by Mr. C. W. Whall. Continued from page 391.

† See sketch of window herewith, and also one of our ink-photo plates for two of the figures on an enlarged scale. As was mentioned by us a fortnight ago, the window has been painted by Mr. Whall's assistant, under his own supervision, and direct from his life studies and the whole retouched by himself. The colour has been arranged by sketches made previously on the actual glass. Reference was made in the lecture to two other window designs by Mr. Whall, which were also exhibited, but as we have no illustrations of these we omit the references to them, which would hardly be intelligible apart from the drawings.



Window for the Church of St. Mary, Stamford — Designed by Mr. C. W. Whall.

same hand. But you are modest, and, distrusting your own judgment, you wish to know whether it is really good. First, then, go and examine the workmanship, for no artistic quality can lessen the importance of that. See that rounded leads have been used, and not flat ones; see that wide leads have been used, and not narrow one. Go at night into the church and look at the painted surface of the glass which, of course, is not visible with daylight shining through it; examine it by gas or candle; see if any of it looks rusty; if it does, take a pen-knife (pacifying the parson with the assurance that you act in the interests of art!) and scrape at it as hard as you can scrape. Go again by day and examine the parts scraped; and if you can see daylight through the scratches, remember that the glass is badly fired, and that in course of time it will all vanish away.

Having satisfied yourself that the workmanship is good, you will want to criticise the poetic fancy, the meaning of the work. Well, of course, we are all judges of *that!* No canons of taste can be laid down; *De gustibus non disputandum.* But there are certain landmarks possible even here.

First, see that the work is original; because, if a man is content to spend his life repeating his old efforts and rearranging his old sermons, he is no poet or teacher.

Second, see that the work is devoted, *Know your man*, and know that he has the enthusiasm and self-sacrifice of an artist.

And when I say, "Know your man," I mean don't be so foolish as, seeing a window that you like, and wanting one by the same hand, to think that you will necessarily get it by ordering it of the same firm. Go to the same firm, if you like, but see that they employ the same man. It amazes me to see how men and women of culture will act as members of a committee and order a piece of decorative art out of what is to all intents and purposes a shop, without taking the least thought of becoming acquainted with, or even knowing the name of, the artist who is to design it. As if it didn't matter!

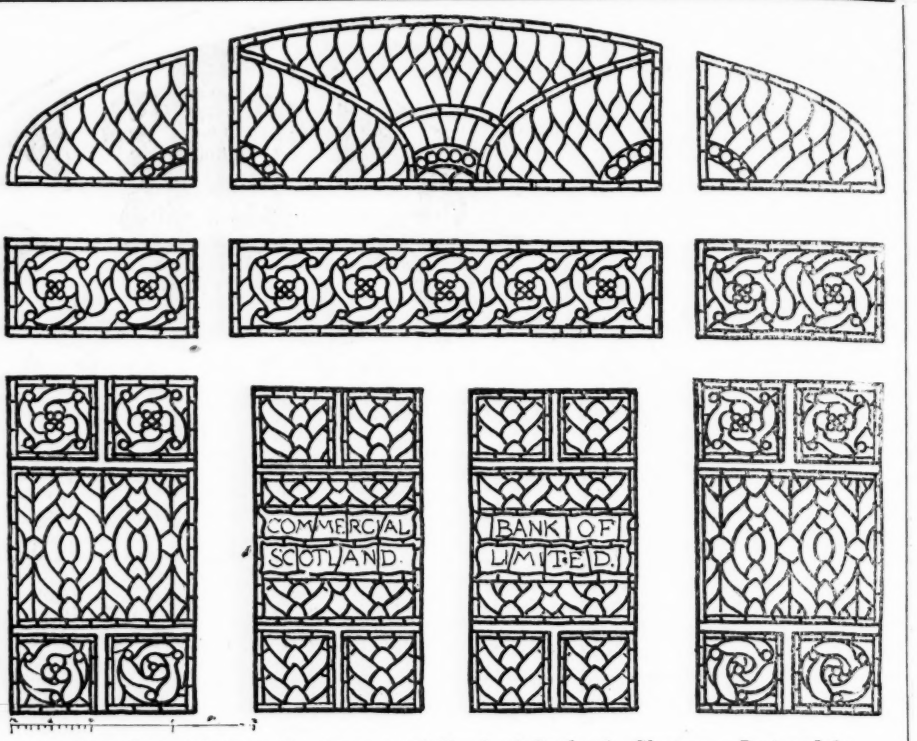
"We have got a splendid idea for our window; it is to be the Last Judgment and the final triumph of Good over Evil. There will be the seven heavens and the nine choirs of angels, the Glorious Company of the Apostles, the Goodly Fellowship of the Prophets, and the noble Army of Martyrs." "Oh, how nice! And who is going to do it?" "Messrs. Brown, Jones, and Robinson." "But who designs it?" "Oh, well, I suppose one of their young men will design it; of course, we leave that to them." So, if you want an ode written you will leave it to Messrs. Chapman and Hall, instead of finding your poet; if you want a sonata or a mass, you will deposit the order on the counter at Novello's, and leave them to choose the musician? And would you not then deserve to get what you do get by ordering works of art in this way; the thoughts of old poets and musicians,—in a word, of artists, of the past,—copied, adapted, patched together, and then used over and over again till the very cartoons are worn out in passing through the shops?

Having got your man, see that he is given proper conditions to work under. These are only two; take care that he have

(1.) Sufficient pay.
(2.) Sufficient time.

Now I need not enter into details as to these, but I will suggest one simple means by which they can be secured.

Meet your man. Talk the thing over with him. Show him what the idea is and what the church is, and tell him what you can afford. If he is an artist and a man of honourable feeling he will tell you what can be done and what is fair and reasonable, and you need never fear that he will give you less than your money's worth; it is a hundred chances to one that he will try to give you more. If the sum is not large enough to cover the cost of elaborate figure-work well done, he will make no unreasonable attempt to meet an unreasonable wish on the subject by undertaking to do elaborate figure-work with the hope of passing off such upon you *ill* done. He will suggest some less ambitious scheme which may be just as beautiful of its kind, and, perhaps, even much more suitable to the church in every way. And with regard to the question of sufficient time, which is of much more importance to him than sufficient pay; you may remember that, reasonable diligence on his part being always secured to you by the fact that he will be wanting to get paid, your giving him an interview will allow him the chance of persuading you out of the extreme folly you were contemplating, of hurrying on the work (to its certain ruin) in order to be in time for the Archdeacon's visitation. But in addition to these means of protecting yourself from a mistake, there is one that may often help you. Consult an architect. If the church is new, and the architect of it living, I will go so far as to say that it is your duty to do so: the church is his, and he has a right to be asked about its decoration. But if not, go to some one whom you know to be an artist in his own work, one who loves to build beautiful things. Ask his advice, he will quite probably be able, and certainly willing, to direct you into the right way of setting about it. If all these means fail you, I would say, by way of summing up my advice, "Don't give stained-glass at all. Leave the light of heaven to come in through the plain diamond panes, and put your money into some more utilitarian and less ambitious form of charity: for after all, if I were only allowed to speak one sentence to you to-night upon the subject of stained-glass, I should have no hesitation in choosing what to say. The sentence would run thus: "There's far too much of it!" Church after church is ruined by ambitious attempts to do, by the aid of ordinary people, a supremely difficult thing which can only be well done by its coming under the grasp of genius and enthusiasm. But without straining after so high a flight, much that is beautiful may be done. Good ornament is quite attainable even in these days; and let me even dwell for a moment on the very great beauty of good plain glazing; for the ordinary leadwork of a window, well arranged by a good architect or master of ornament, and containing beautiful material, may have a most charming effect. Certainly the one piece of work which I have myself most enjoyed this year (and all that I show you to-night was done within that period) was this plain glazing for the interior of a bank, where my only source of beauty lay in my making a kind of lacework of the lead, filling it in with various pale tints of this exquisite glass, the existence of which we owe (and it is a real debt) to the enthusiasm and persistence of an architect, Mr. E. S. Prior. I have not seen this particular piece of work *in situ;* it is as far off as Glasgow; but to show you the value of such work well done I may mention that though this is the kind of job that architects sometimes treat as so insignificant that they leave it to the builder to estimate what he likes for it, this particular piece of work, humble as it is, so pleased the architect that he thought it worth his while to write me the warmest letter of commendation and thanks that I have ever received from any one regarding a piece of my work. I am far from sure that my ambitious figure window will give so much or so wholesome pleasure, or do so much good during the thousand years or more that, if left alone, they are each of them well calculated to last.



Leaded Glass Work at the Commercial Bank of Scotland, Glasgow.—Designed by Mr. C. W. Whall.

And now I must draw my remarks towards a close. I fear you will think that in dealing with my subject I have not adopted a very hopeful tone, or painted a very flourishing picture. To do the latter would have been untruthful; but I am very hopeful, and I propose to devote a very few minutes to forecasting what I think may be the future of the Decorative Arts. I said that the Gothic revival was founded on old models, past centuries; but I did not say which centuries. Briefly, then, the thirteenth and fourteenth. This was no doubt largely owing to the teaching of Ruskin, and to the picturesque historic glamour which hangs over those early days. But as far as the architectural arts are concerned, the exaggerated views of the early leaders were seen to be too narrow. Men rebelled against being forced back to live the thirteenth century over again, with all its limitations; the beauties of the later work, of the Perpendicular, even of the "Queen Anne" and others, were reasserted (by no one more generously than by Ruskin himself); whilst men like Bodley and Norman Shaw, Gilbert Scott, jun., and Bentley, Jackson, Champneys, and Sedding working in them, broke the spell, and shattered the old restricted movement to pieces. What I have called the "crude, angular horrors" of the days of Pugin would no longer pass current, and more strenuous efforts had to be made to conquer the difficulties of art as art, and to bring *it*,—and not mere good intentions,—into harmony with the craving after the old religious and poetic spirit of the past. This movement has led men, by strong reaction, back to Classic architecture. I deeply regret that; the return to one century is as artificial as the return to the other. It falls under the same reproach which I have alluded to as the cause of all the failure, for it also says, "What has been shall again be, and all will be well;" but it has served the good end of demonstrating that all attempts to revive the dead past are exhumation, not Renaissance; and while doing this the movement (and this is an advance upon the Gothic movement) is now having a curious but very, very encouraging result. By setting up the standard of perfection in art as art, it is, in painfully following after this excellence, giving the arts of architecture, sculpture, and painting respect for and sympathy with each other, and the men who practise them are drawing together by the single tie and meeting together on the single basis of fine craftsmanship as such, and are setting themselves to school to learn of each other, and to respect the difficulties and limitations of each others' calling, in associations of "Art and Craft." At present it is a movement chiefly amongst younger men, but it is growing and spreading,

and I believe that the future is in its hands. I dare not go deeper or travel beyond the arts upon which it is my business to speak to you, but I think I may tell you this much,—though, indeed, you would guess it for yourselves,—that these men, besides being artists, having, as they have, such open minds that they are searching after truth, are also eminently representative of the various aspects of this many-coloured age we live in, and earnest students of the questions, religious, political, social, scientific, as well as artistic, in the development and solution of which will lie the history of the future, and the fashion and colour of the coming days which our children and children's children will see. I am no dreamer to promise myself, or to prophesy, that beauty will triumph over ugliness in the near future, any more than that good will triumph over evil; yet I cannot but take courage in the knowledge that upon these men, genuine artists, to be put off no more with bad work, to be cheated no longer by shams, to be satisfied no longer by good intentions, and to be exploited no longer by commercialism, will lie in such large measure the direction of the arts of the twentieth century.

ARCHITECTURE AT THE ROYAL ACADEMY.—IV.

1,772. "St. Alban's Church, Streatham Park; interior view:" Mr. E. H. Martineau. A solidly-treated pen-drawing of a solid-looking round-arched Gothic interior. The nave arcade, brick with square soffit only relieved by a roll-moulding at the edge, is carried on cylindrical stone columns. The carved capitals, which are rather hurriedly sketched in, do not seem to have quite enough force for the heavy abacus over them. The open timber roof is treated with carved braces and tie-beams worked into cylinder section between the brackets and the junction with the king-post. It may be rather a question whether this manner of treating a wooden tie-beam does not suggest too much of the tie and too little of the beam, and regarded as a mere tie it looks rather heavy in the proportions necessarily employed in wood.

1,773. "David; Twelfth-century Byzantine Mosaic, Daphne, Athens;" Mr. R. W. Schultz. A careful coloured drawing, with gold background, of a figure clothed in white drapery relieved by blue lines, and with a blue cloak with a broad gold edging relieved by an alternating ornament of dark squares and white dottings. The upper portion of the drapery is very effectively designed, and the figure is a fine example of its class.

1,774. "Home for Ladies, Hove"; Mr. T. J. Lainson. Sufficiently home-like, and the recessed doors, under a wide low arch, have a good effect. The houses are treated as a symmetrically designed gabled terrace, with projecting wings. A plan showing the manner of arranging one house would have been a useful addition.

1,775. "St. Oswald's Church, Small-heath, Birmingham"; Mr. W. H. Bidlake. A delicately-executed water-colour drawing, hung too high to see detail well. The large solid tower stands a little apart from the south-west angle of the church, with which it is connected by a low roof covering a porch which stops the end of the aisle, a similar porch balances this on the other side. The porch interposed between the tower and church might perhaps rather seem to suggest a variation in treatment. A plain spire with large lucarnes rises from the tower, the angles of which terminate in turrets a little short in proportion for their width: turrets of somewhat similar character form the finish to the buttresses at each side of the west front. The general expression is all in keeping, solid, but perhaps a little heavy. A plan is added.

1,777. "Design for a Staircase; Interior;" Mr. T. Armstrong Stenhouse. A well-executed coloured drawing of a sumptuous staircase in a rather free classic style. The upper landing is carried on a large semi-circular arch with low springing, built of white marble with carved spandrels, a moulding and a plain frieze of yellow marble over. The handrail and balustrade are treated very solidly, not with open balusters but with closed panelling, diversified by a circular sculptured panel in the centre of each flight. The newels are square architectural erections with clustered colonnettes and finials. From the colouring we presume this portion is intended to be wood. This looks a little heavy in effect, but a purpose is given to the treatment by showing the balustrade return on the landing as a surbase to an arcade with classic columns, through which is seen an organ. Generally speaking, however, it is certainly preferable to employ for a staircase a design showing lights through, either balusters or pierced work; the effect of so much solid "partition" is apt to be heavy.

1,778. "26, Wigmore-street, and 86, Wimpole-street": by Mr. J. L. Pearson. These are shown in two very neatly-finished coloured elevations in one frame; apparently terra-cotta fronts; terra-cotta has rather taken up its station in Wigmore-street of late. The style cannot be labelled and ticketted according to accepted nomenclature, though there is considerable Elizabethan feeling about it. The ground floor shops are treated with plain windows with wide moulded three-centred arches; portions of the longer front emphasised by a series of pilasters and a gable over them; the intermediate spaces are left with plain walling, pierced in some parts with mullioned windows without decoration. The decorative detail, very carefully shown, seems in some places a little hard and mechanical, but the whole effect is well suited to terra-cotta.

1,779. "St. Peter and St. Paul, Charlton, Dover; Southwest View;" Mr. Jas Brooks. We shall publish in our next a reproduction of this perspective drawing, a finally-executed one in pen and ink, as well as a sheet of geometrical drawings of the same church, which do not appear at the Academy. The design is plain almost to sternness; the west front is treated with three tiers of lancet arches, the lower tier spaced a little apart, the upper ones drawn together forming a continuous arcade; the front is flanked by plain massive buttresses ending in gablets, and on the north side is the plain square saddleback tower, the upper portion of which is battered slightly, the lines falling in towards the top; there are plain lucarned lancets on each face in the upper story, the solid masonry of the lower portion is only broken by one or two slit lights. The low sloping roof connecting the base of the tower with the church leaves a rather awkward angle between its lines and those of the tower wall; we presume this sloping roof represents the end of a passage aisle (no plan to show this), and the design is in that case strictly truthful, but the tower seems crushed a little too close against the northern buttresses of the nave. The transept is treated in an equally plain manner, and its west wall presenting an unbroken expanse of wall. The nave wall has single lancet lights, one to each bay. The whole is a thing that looks built for massive endurance and not for show.

1,780. "The Wall Decoration Leading Into Lady Chapel, Folkstone Parish Church; the Tree of Jesse;" Mr. A. O. Hemming. We publish an illustration of this drawing in the present number, which of course cannot show the colour. The branches of the tree are a dull red in tone, with leaves partly in a lighter tint of the same, partly in a delicate green. The draperies of the figures are treated with a considerable variety of rich and harmonious colour. The design is original and effective, and suggests something rather new in the way of ecclesiastical wall decoration.

1,781. "City Bank, Ludgate-hill;" Mr. T. E Collcutt. This is one of the best line drawings in the room, and a very rich and effective piece of street architecture. A plainly-treated ground story built in large blocks, with a large round arched window and a strongly-marked moulding at the first floor level; above this the treatment of the windows is very varied and picturesque. A slightly-projected buttress, semi-hexagon in plan, on each side of the window in the ground story, is further developed above, and becomes a solid pier dividing and strengthening the series of windows. A coved convex cornice runs along the top, with plaster (?) decoration, and from behind the balustrade over this rises a gable the front of which is nearly solid, except for the tier of windows continued along its base. The angle of the building is canted, and over the entrance door rises an octagonal turret corbelled out, and finishing in a small cupola. There is a great deal of thought and contrivance in this design, carried out to a very pleasing and picturesque result.

1,782. "View of Peterborough Cathedral;" Mr. Arnold Mitchell. This is the drawing which was produced in our English Cathedrals series in the issue of the 4th of April, and is in fact the property of this journal, for which it was commissioned from the artist, though exhibited here in his name. Under the circumstances, we of course pass it over without further remark than to record its presence on the walls.

1,784. "Cottages, stables, and farm buildings at Clipsham Hall, Rutland;" Mr. Arthur Young. This is a large bird's-eye view executed in sepia of a large group of buildings which appear picturesque as far as can be judged at the height at which the drawing is hung. As the work of an architect who is an expert in farm-building, plans, elevations, and sections would have been more to the purpose, for farm-building is a class of architecture in which economy of structure and technical convenience of plan are of such importance, for any possibility of financial success in farming, that picturesqueness is quite from the purpose unless these practical claims are first fully satisfied. Here we have the picturesqueness only, with nothing to show how the building fits its purpose. We may again comment on what we have several times noticed before: viz., the persistency with which birds-eye drawings are hung, at the Academy, at the highest possible point, in defiance of the conditions of perspective.

1,785. "Portion of a design for a ball-room;" Mr. W. F. Randall. A large and richly-coloured elevation showing four bays of the side of a classical room, gorgeous in marbles and stained glass. The piers show each two marble pilasters of a Corinthian order, with decorative panels with figures between; the order carries an entablature and that again a balustrade, apparently the front of a gallery, and over this is an arcade, the springing of the arches being of the level of the balustrade. The effect of this is not very satisfactory, as the arches appear to belong to the order and yet to be too much separated from it; that is the effect in elevation, possibly plans and sections or a perspective might have showed it in a different light. The details are carefully executed, and the effect of the whole is sumptuous though not very original.

1,787. "The Courtyard, Claridge's Hotel, Brook-street;" Mr. W. D. Caröe. A pen-and-ink view showing two sides of a courtyard, on the left an arcaded loggia on the ground story, with rusticated columns and a balustrade over; at the end of this a semicircular projecting bay sits rather piquantly astride of the balustrade; the general character of the building is more or less Elizabethan, but with a free treatment. There is too large a development of what we are disposed to term bottle-stopper finials on and about the gables.

1790. "Great Hall, Rhinefield, Hampshire;" Messrs. Romaine-Walker and Tanner. This is a large and fine pen-and-ink drawing, one of the best in the room, of a spacious hall of a mansion, with an open timber roof of very elaborate design. The details partake both of Elizabethan and of Gothic, and in the roof the traceried Gothic arcades introduced as part of the ornamental treatment seem at variance with the feeling both of the finials and of the pierced strapwork ornament of the spandrels of the roof-principals. The lower part of the hall is wainscotted, with a Ionic pilaster order. Above the cornice of this runs a balustrade on the first floor level, of odd design, the square balusters being designed in imitation of masonry, with joints cut upon them. If this is old (we believe the house retains some ancient portions amid the modern additions) it is interesting: if it is new, it is bad taste, with which moral we will conclude for the present.

THE IRON, HARDWARE, AND METAL TRADES PENSION SOCIETY.—The forty-eighth anniversary festival dinner will take place in the hall of the Ironmongers' Company on May 26, under the presidency of Mr. Howard J. Kennard, Chairman of the Blaenavon Co. and Falkirk Iron Co. About fifty years ago this charity was founded by Mr. R. W. Kennard, M.P., with the view to contribute relief of a permanent character to distressed members of the iron and steel industries of the upper ranks; and as showing the need existing for such an institution, it has, through its agency, distributed in the form of annuities a sum closely approaching 100,000*l.*

NEW R.C. CHURCH, CULLYHANNA.—On the 18th inst. the foundation-stone of the new Church of St. Patrick, Cullyhanna, Parish of Lower Creggan, County Armagh, was laid by the Rev. Dr. Logue. The first contract for the new church is estimated at 4,500*l.*, exclusive of woodwork, ceiling, flooring, plastering, altars, &c.; and that for the erection and completion of the new Presbytery will be about 1,700*l.* The architect is Mr. William Hague, Dublin. Mr. James Wynne, Dundalk, is the builder.

Illustrations.

MURAL DECORATION,—"THE TREE OF JESSE."

THIS illustration shows the east wall of the north transept of Folkestone Parish Church leading into the Lady Chapel, the drawing of which is being exhibited in the present Royal Academy. The design occupies the entire wall, and represents Jesse lying asleep, and rising from him a tree bearing on its branches his descendants, figures of the kings of Israel, little short of life-size in soft and harmonious colours among delicate foliage work, the tree terminating with the Virgin and Child together, with two angels holding a dossal behind the Virgin, and three angels flying forward beneath her feet bearing the text, "Of whom was born Jesus who is called Christ."

The whole was designed and executed by Mr. Alfred O. Hemming last autumn, who also last week completed the entire set of the "Stations of the Cross" on the walls of the nave, the first three of which we illustrated in our issue of August 23, 1890, besides a choir of angels in the roof of the tower over the choir stalls, and several other special figure-subjects, all of which are to be dedicated to-day (Saturday).

ST. MARY'S CHURCH, NEWBURY.

MONEY is now being collected to complete the work begun by the late Mr. Street in 1879. At that time a new chancel, organ-chamber, and vestry were built, at a cost of 4,250*l.*, but no design was made for anything further. It is proposed to complete the work by building a nave, aisles, and transepts, on the old foundations. The body of the church at present is a mere square room, without an arcade, and the flying buttress attached to the south wall of the narrow part of nave will resist the thrust of the new arcade. The narrowing of the west end is necessitated by the position of the old foundations. This was originally the site of the chancel, but it was found more convenient to build the new one at the other end.

The architect for the new work is Mr. Arthur E. Street. The drawing from which the illustration is taken is hung in the Royal Academy Exhibition.

FIGURES FROM WINDOW, ST. MARY'S, STAMFORD.

THE lithograph represents the figures in two of the compartments of a window designed by Mr. C. W. Whall, and carried out under his direction by Messrs. Britten & Gilson. A sketch of the whole window is given on another page, and a description of it is given in Mr. Whall's paper on "Stained Glass," read at the Liverpool Art Club, the concluding portion of which is printed in the present number.

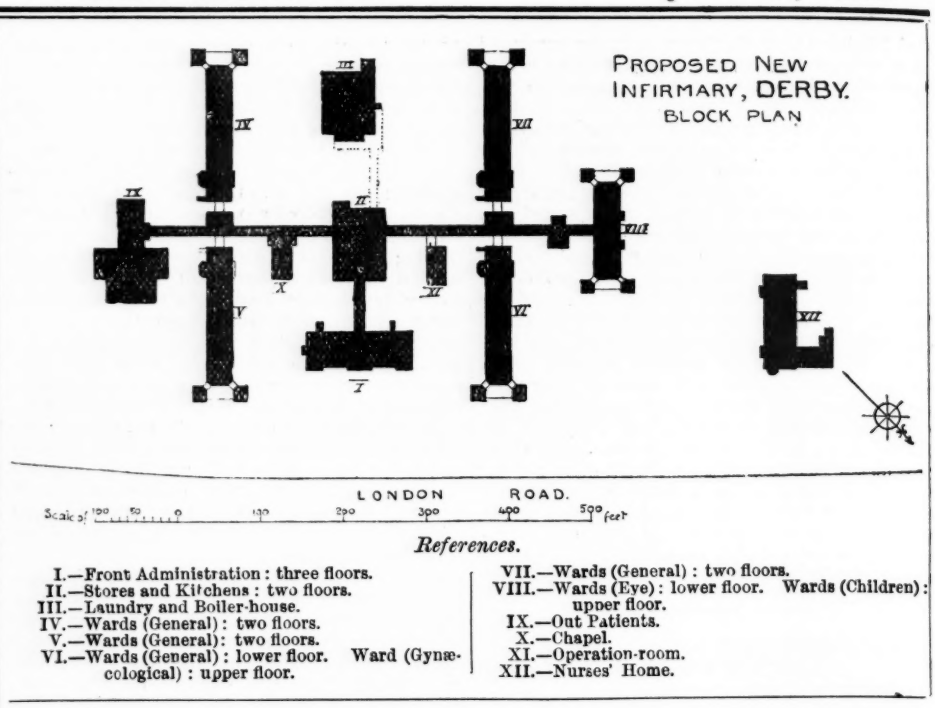
DERBYSHIRE GENERAL INFIRMARY.

THE new hospital for the county of Derby will consist of thirteen blocks of buildings, which for the purpose of description may conveniently be numbered as follows:—1. Front administration. 2. Back administration. 3. Laundry and engine-house. 4, 5, 6, 7, and 8. Ward pavilions. 9. Out-patient department. 10. Chapel. 11. Operation-room. 12. Home for nurses. And 13. Mortuary.

The central block round which the wards and other buildings are grouped is No. 1. The front administration: This is a three-story building, and contains, on the ground floor, the main entrance to the hospital, with the secretary's office, waiting-room, porter's office, and room for medical staff closely adjacent. The eastern part of the ground floor is devoted to the casualty department, with its separate entrance, waiting-room, consulting-rooms, and a small ward for cases of urgency. On the first floor is the board-room, with the residential quarters for the medical staff and the matron. The second floor is devoted to bedrooms for the servants.

This building is connected to the back Administration (Block No. 2) by a corridor and again to the main Hospital corridor, which, running at right angles, divides the block in question into two unequal parts.

The lower or larger part of the block contains on the ground floor the stores, linen-rooms, &c., and on the upper floor the kitchen offices and larders. The upper or smaller part contains on the ground floor the nurses' dining-room, servants' hall and pantry, and on the upper floor bedrooms and sitting-rooms for the porters.



References.

I.—Front Administration: three floors.
II.—Stores and Kitchens: two floors.
III.—Laundry and Boiler-house.
IV.—Wards (General): two floors.
V.—Wards (General): two floors.
VI.—Wards (General): lower floor. Ward (Gynæcological): upper floor.
VII.—Wards (General): two floors.
VIII.—Wards (Eye): lower floor. Wards (Children): upper floor.
IX.—Out Patients.
X.—Chapel.
XI.—Operation-room.
XII.—Nurses' Home.

Block No. 3 contains the laundry with a separate washhouse for infected linen, the boiler-house, engine-room, disinfecting-house, and cremator for refuse.

Block Nos. 4 and 5 are similar in all respects, so that a description of one will suffice for the other. Each block is approached from the main corridor by a covered bridge with free ventilation at each side, and of sufficient height only to afford proper head room. The object of this arrangement is to isolate each ward from aërial contact with the other wards, and thus to prevent the connecting corridors being channels for the conveyance of air from one ward to the other.

At the entrance to the pavilion will be found spaces for coal bunkers, cupboards for ward linen, patients' clothes, and food, a w.c. for the use of nurses, and a cupboard for brooms, pails, &c. Close to the entrance to the ward on one side of the corridor is a separation ward capable of holding two beds, and on the other side a nurses' duty-room or ward kitchen.

The wards are 127 ft. long, 29 ft. wide, and are arranged to hold twenty-four beds each. Each bed is separated from its neighbour's by a window, and each patient will have 145 ft. floor space 1,890 ft. cubic space. The floors will be laid with teak, or some similar hard wood, bedded directly on concrete, and the framework of the floors and ceilings will be of iron bedded in concrete. In the finishing of the walls, floors, ceilings, windows, and doors, all internal angles will be rounded in order to provide no avoidable lodging places for dust. The wards will be warmed partly by open fire-places placed in the centre with descending flues, and partly by steam coils placed in window recesses and provided with fresh air from outside.

At the further end of the wards are two towers connected with the wards by covered bridges containing the sanitary offices and the bath-rooms. Between these towers are balconies for the use of convalescent patients.

Block 6 is on the ground floor, exactly similar to Nos. 4 and 5. On the upper floor it contains six small wards for one bed each, and a general ward for ten beds, all of which will be allotted to the gynæcological department. Block 7 is similar in all respects to Nos. 4 and 5.

Block 8 is a two-story building, and will be devoted on the ground floor to diseases of the eye. It contains two wards for six beds each, and has, in addition to the usual ward offices, a separate operation-room, with a recovering-room attached. The upper floor of this block contains two wards for children, with the necessary offices.

The out-patient department (No. 9) is at the extreme south-east end of the main corridor, and is a one-story building.

The entrance for patients is in the centre of the front facing the London-road. Immediately inside the entrance are two small waiting lobbies for new patients, separated from each other by the porters' office. From these access is obtained to the general waiting hall. Off this hall are placed the four consulting-rooms, each of which is provided with a small examining-room. From these consulting-rooms the patients will go to a second waiting-room, where they will wait their turn to receive their medicines from the dispensary. Behind the dispensary is the pathological department and museum.

The chapel (No. 10) is placed midway between the back Administration and the Eastern Ward Pavilion (Blocks 4 and 5).

In the corresponding position to the last on the western side of the Administration block is the operation-room. Beside the operation-room itself there is a room for the administration of anæsthetics, and a room for the staff. The operation-room will be lined with marble slabs up to a height of between 7 ft. and 8 ft., above which the walls and ceiling will be painted and varnished. The floor will be laid with "mischiati," which consists of marble chips bedded in cement, and forms a very hard impervious surface. In all its details every effort will be made to secure as entirely "aseptic" conditions as possible.

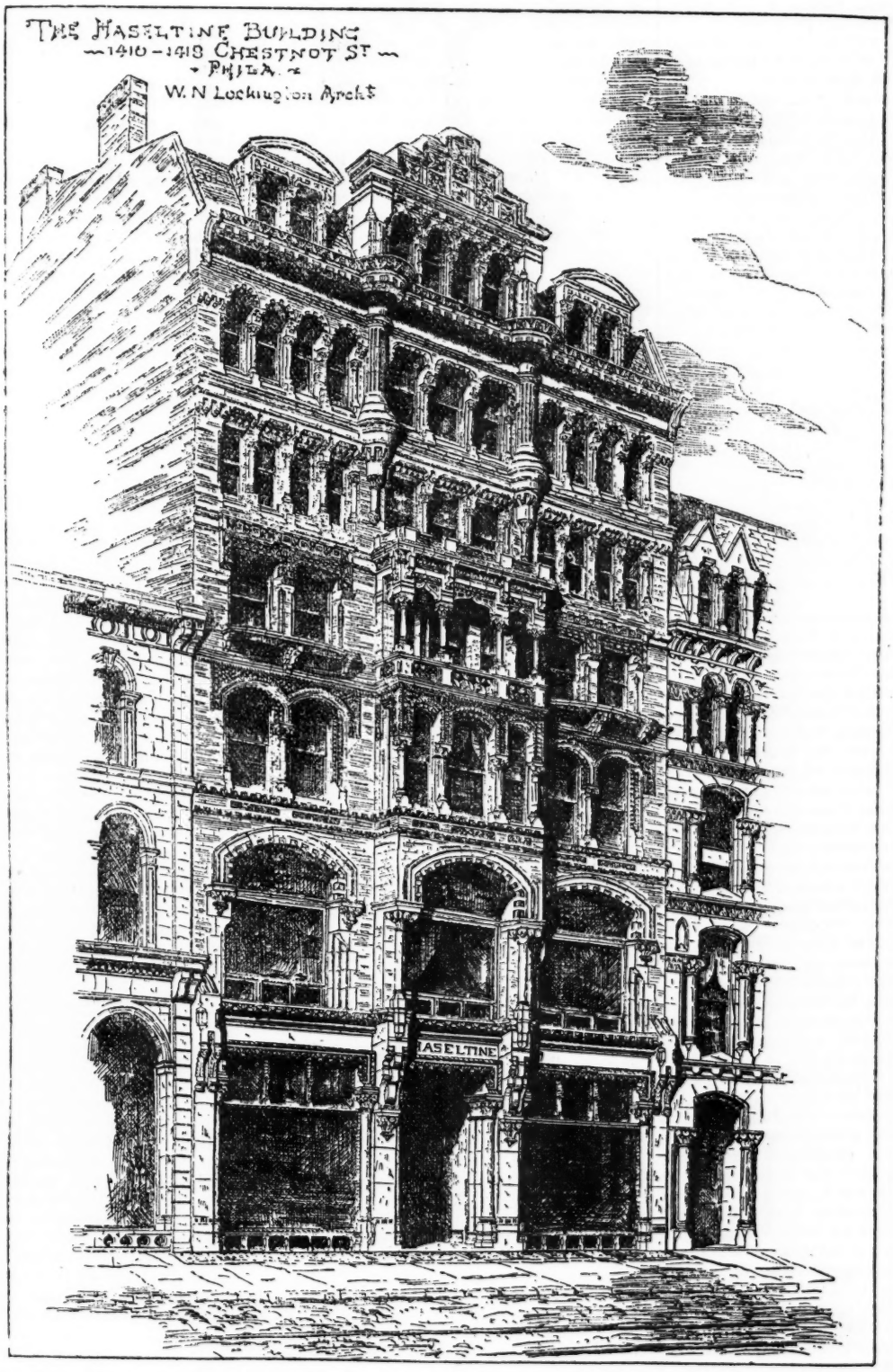
The Home for Nurses (Block 12) is a detached building, and will afford accommodation for forty-eight nurses. Each nurse will have a separate bedroom and separate sitting-room, and reading-rooms will be provided for the staff nurses and probationers respectively.

The Mortuary Block (No. 13) is also a detached building, and will contain in addition to the Mortuary and *Post-mortem* Room, a separate chamber where bodies will be placed for friends to view, and an ambulance-house and stable.

Externally the buildings will be faced with red bricks, with Bentley Brook Stone mullions, cornices, and mouldings. The style adopted is late Elizabethan. The architects are Messrs. Young & Hall, of London.

RECENT ARCHITECTURE IN PHILADELPHIA.

PHILADELPHIA, notwithstanding its million or more of inhabitants, and its position at the head of the manufacturing towns of the United States, until very recently possessed fewer structures exhibiting either architectural merit or even magnificence than any other of the large cities of the Union. When William Penn, some two hundred years ago, laid out the Quaker City, he had evidently not gauged the dimensions of the North American continent, or he would never have made 50 ft. the limit of width between the building lines of the opposite sides of the streets, still less would he have permitted the entrance steps on each side to project 4 ft. 6 in. beyond that building line. Yet even Penn's original city was in its conception far in advance of contemporary cities of the Old World, and it was not his fault if that perverseness of commerce which is exhibited in similar modes in so many other towns, was shown in Philadelphia by the



practical refusal to make use of the two widest avenues, Broad and Market-streets, as the principal thoroughfares, and the preference instead of Chestnut-street, which though now somewhat widened by the gradual confiscation of five additional feet on each side, is probably the narrowest main business street in the entire United States.

The buildings of Penn's time, notwithstanding that rectangularity of outline and lack of adornment which characterized all structures erected by the Society of Friends, were substantially built of red brick, or, in the neighbouring villages which now form the suburbs of the great city, of the local micaceous gneiss, and this at a period when wood was by far the most usual building material in other parts of the country. But, while the street architecture of other American cities gradually improved in design, or at least in dimensions and magnificence, that of Philadelphia remained stationary, preserving its Quaker simplicity almost unchanged until within these last few years,—until, in fact, the Centennial Exposition opened the eyes of the natives to the fact that the world outside of Philadelphia, in America as well as in Europe, was alive and busy.

For the first time in their history Philadelphians began to feel a slight suspicion that, after all, other cities and other countries might know a few things that a Philadelphian might learn with profit. Some slight fear that possibly they might in some things be behind some other American cities, or even (horrid thought) behind some of the towns of the Old World, intruded itself upon their accustomed sense of superiority. From that date the architecture of Philadelphia has improved, slowly, it is true, —Philadelphians never move swiftly either in a forward or backward direction, as may be perceived by one who watches the pedestrian and vehicular currents of Chestnut-street, yet still surely.

The majority of the residence streets of Philadelphia—Philadelphia in 1888, except in suburban districts, differ from those devoted to retail trade in little more than in the absence of plate-glass. The dwellings are ranged in close rows, and most of them still retain their old characteristic features, viz., red brick fronts, white marble sills and steps, conductors discharging upon the sidewalk, outside blinds (usually painted green), and plain rectangular windows. Yet here and there, during the last few years, the monotony has been broken by a residence, or perhaps a series of residences, conceived in some variety of the modern manner commonly known as Free Classic, or Queen Anne; here and there brown stone façades, the work in great part of the decade of the centennial, diversify the red brick sameness; and occasionally structures evincing originality either in their detail, openings, or general form, prove that the architects of Philadelphia, though they may be less numerous and less known to fame than her lawyers, are at least alive and thinking.

The finest examples of modern Philadelphian domestic architecture are not to be met with in the city proper, but in such extensive suburbs as Germantown, Chestnut Hill, Bryn Mawr, &c. The most magnificent of these suburban mansions rival in size baronial castles, and are constructed of solid stone. Picturesqueness, both in these larger houses, and in the, for the most part, smaller ones into the construction of which brick, terra-cotta, and wood enter more extensively, appears to be the chief aim of the architects externally. It, perhaps, scarcely need be said that, though sometimes this object is attained, in many cases it is wofully missed. Many designers in Philadelphia, as elsewhere, appear to forget that, though a picturesque building may often be also an irregular one, it is not every irregular structure that succeeds in being picturesque. Some of the oddities perpetrated in the names of Queen Anne

and Old Colonial will, within a few years, seem as inartistic as their predecessors, the plain square boxes, appear to the present generation, since their only claim to the title of artistic is on account of their oddity.

Previous to the Centennial, the white marble imitation of a Greek temple which forms the central attraction of Girard College was the edifice of which Philadelphia was most of all proud, though great hopes were built upon the future glories of the French Renaissance New City Hall. As years rolled on, the latter structure rose slowly from its foundations, developed its four exactly similar façades of exactly symmetrical design, displayed a considerable quantity of tolerably good carving, was topped off with a mansard of enormous proportions, and stood in all the majesty of completion, at least as regards its external appearance, excepting only the upper portion of its immense tower. But in the long course of its erection taste had changed, and the vast edifice no longer pleased. The style was out of fashion, the design wearisome from its sameness, the mansard top-heavy, and, above all, the entrances which gave access to the interior court, especially the one beneath the tower, diminutive and dismal. Thus most Philadelphians are now ready to agree in finding faults in their costly municipal pile, notwithstanding its undoubted magnificence and its huge bulk.

At the date of the commencement of the New City Hall, Renaissance façades of white marble were in fashion upon Chestnut and other leading streets. Very few have since been added, though within the last four years an immense office building, owned by, and containing the bank of, Messrs. Drexel & Co., constructed internally of iron, and faced throughout with white marble, has been completed.

Among the first, if not actually the first, architects to break away from the stereotyped models, were Messrs. Furness & Hewitt. Their Academy of Fine Arts exhibits much originality, and gains increased effect by the employment of materials of different colours. Later on, the former of these gentlemen constructed the edifice occupied by the Provident Life and Trust, a single great hall with an extraordinarily massive, or, in the esteem of some critics, heavy façade of great originality of design towards Chestnut-street. Mr. Furness has since erected numerous residences, as well as many of the principal banks and commercial structures of the city, and is on all hands recognised as an original genius. His style inclines rather more toward what may be called Free Gothic than towards Free Classic. The Bank of the Republic, an extremely picturesque irregular château-like building on Chestnut-street; the Penn National Bank, and the depôt of the Baltimore and Ohio Railroad, are among his recent works. Few architects beside Furness would have dared to form an entrance out of a heavy half-arch abutting against a circular turret, as he has done in the first of these edifices. In the interior of the same bank two half-arches abut against a central stone fireplace, thus composing a symmetrical termination to the hall. The Unitarian Church on Chestnut-street, near Twenty-second-street, with its very peculiar low, one-storied, open tower, is also the work of this architect.

Among the edifices designed by Messrs. Hewitt Bros. are the Guarantee Trust Building, which may be called Victorian Gothic, and is another example of what, until some four years since, was the Philadelphian beau-ideal of a bank-building, viz., a spacious lofty hall lighted from the roof. The Hahnemann Hospital on Broad-street, a Gothic structure with a cornice of small pointed arches; the Fidelity Bank, and the enormous and fortress-like Bullitt Building—a far-away echo of H. H. Richardson—are others of the Hewitt's designs.

Notwithstanding the high value of the ground upon the principal streets, it was not until 1887 that Philadelphia perceived the advisability of erecting lofty commercial structures. Up to that date very few buildings, even in the central parts of the city, exceeded four stories in height. A bank building having several stories of offices above the ground floor used for banking purposes was considered as offering too many facilities to burglars, and lofty buildings in general were stigmatised as "New Yorkian," and therefore abhorred of all true Philadelphians. But in this case, as in many others, the love of profit conquered pride. It became so evident that it was financially foolish to erect a structure of a single story upon a site the value of which was equal to that of a many-storied building, that at last the Quaker city was, however unwillingly, converted to the architectural creed of New York.

The first lofty office-building run up was at the corner of Fourth- and Chesnut-streets. The ground floor is the bank of Brown Bros., the site is only 50 ft. square, while the height is more than twice as much, so that it is a veritable tower. The architect was T. P. Chandler, previously well known for his success in the attainment of the picturesque in his designs for country dwellings, and also as the architect of the office-building of the Liverpool, London, and Globe Insurance Company. The Brown building is a somewhat free Renaissance, with no especial original features, and destitute of the picturesqueness of the designer's country cottages and mansions, yet it deserves notice as the first tall building, and the first large white brick building, erected in Philadelphia. Soon after this uprose the gigantic Bullitt building, which fronts four thoroughfares, rises to more than twice the width of Fourth-street, and mingles much small detail carved in brown stone with great massiveness. The uppermost story is a restaurant, accessible by ample lifts.

The Haseltine Building was the first of the new tall structures of Philadelphia to be designed, but its commencement was postponed for a year, so that it was not completed till the summer of 1888. It stands upon a site 230 ft. by 54 ft., and consists of a lofty seven-story building on Chestnut-street, an eight-story ditto on Sansom-street, and between them a lower portion lighted from the roof. The ground floor is occupied by two large stores, while the second floor is entirely occupied by the gallery of the well-known picture-dealer, Mr. Chas. F. Haseltine. The Chestnut-street front is very polychromatic, since it is faced with buff brick adorned with belts and window-dressings of red terra-cotta, has a main cornice of copper, and exhibits much Indiana limestone on its lower floors and in the massive cornice corbels that support the central pediment. The style is a mixture of Renaissance and Gothic, horizontal lines predominating, while most of the openings are either segmental or semi-circular headed, and many of the mouldings are of Gothic section. Mr. W. N. Lockington was the architect.

Among the Free Classic structures recently erected are the offices of the Insurance Company of North America and the Imperial Building, both in Walnut-street, and both the work of a Bostonian architect. Carving executed in brick; and copper, showing as such in bays, &c., are conspicuous in these.

The façade of the Horticultural Hall on Broad-street, the Wood Building (offices), and the tall structure at the junction of Broad and Chestnut-streets, for the Girard Insurance Company, are the work of Addison Hutton. The last-named building, with its window-jambs of clustered colonnettes, shows also the influence of Richardson.

The lofty building which occupies the site of the old Masonic Hall possesses features of considerable originality, and is the work of W. G. Hale, who is also known as the designer of the Record Building and the Keystone Bank, both on Chestnut-street. The latter possesses a pleasing and picturesque, though narrow, façade.

The writer left Philadelphia in the autumn of 1888, and, as he has not since visited it, cannot speak of the structures commenced since that date. Still, he has heard enough to know that the movement for lofty and expensive buildings in the main thoroughfares continues, and that the distinctive Quaker architecture of the city is doomed to extinction in the principal streets.

W. N. L.

THE "A.A. LYRIC CLUB."—The eighth and last smoking concert of this Club was held at the "Mona" Hotel, Covent Garden, on Thursday, the 14th inst., the President, Mr. W. Burrell, in the chair. A number of songs were well sung by Messrs. A. C. Bulmer-Booth, André, A. B. Thomas, F. E. Lacy, and Captain H. W. Anderson. Mr. F. T. W. Miller gave a humorous reading, and Mr. C. D. Imhof was the accompanist.

CHANGE OF PARTNERSHIP.—We are informed that Mr. Erasmus Bond retired from the firm of Arding, Bond, & Buzzard, surveyors, at Lady-day last, having been a member thereof for thirty-two years. His son, Mr. Douglas Vale Bond, joined the firm nearly five years ago. The business will be carried on by Messrs. Chas. B. Arding, Alfred L. Buzzard, and Douglas V. Bond, as before, in the name of the old firm, "Arding, Bond, & Buzzard."

ARCHÆOLOGICAL SOCIETIES.

LONDON AND MIDDLESEX ARCHÆOLOGICAL SOCIETY.—A largely attended meeting of this Society was held on the 13th inst. at St. Paul's Cathedral, which the members visited preparatory to a subsequent meeting at the Chapter-house, in St. Paul's Churchyard, where a paper was read by the Rev. W. Sparrow Simpson, D.D., F.S.A. (vice-president), entitled "The Bishop of London's Palace." Dr. Simpson said this palace formerly stood at the north-west corner of St. Paul's Cathedral. Writers differed as to its exact position, but later accounts showed that the palace contained a lower chapel, which suggested that there were two chapels, but probably it was like Lambeth Palace, which had a crypt, which would be the second chapel. In the Great Fire of 1561, the Lord Mayor and citizens were called upon to protect the Bishop's Palace, and by great labour and diligence a portion of the roof was pulled down, and through the space thus created the fire was not allowed to spread, and thus the Bishop's Palace was saved. A plan drawn by Mr. Penrose, the Surveyor to the Dean and Chapter, was submitted, showing that the structure was formerly an elaborate one, and it was mentioned that in the current number of the *Newbery House Magazine* there was a very interesting paper by Mr. H. W. Brewer, who had also drawn a plan of this palace, but the essayist thought that Mr. Brewer had placed the palace at an angle which it could not have occupied. It was plain that the gardens of the palace extended beyond Ave Maria-lane, and the garden on the west was divided from Ave Maria-lane by a high brick wall reaching to a house in Paternoster-row, the whole length of this garden being about 200 ft. Among the eminent persons who formerly lodged at the Bishop's Palace, Dr. Simpson named Queen Catherine of Arragon, and the festivities which followed her marriage with Prince Arthur (who died six months afterwards), and then with his brother Henry (afterwards King Henry VIII.). The building combined the elegances of a palace with the requirements of a prison; it contained two prisons known as the Coal-house and the Salt-house, the latter being capable of holding fourteen persons. Rose-street and Ivy-lane suggested the fact that the palace gardens formerly stood close by. Mr. Charles Welch, F.S.A. (hon. secretary), next read a paper on "Some Notes of Early Printers in the neighbourhood of the Cathedral," and said that the nomenclature of the courts and lanes in this locality was evidence of the former existence of book-makers here. There was much evidence also to show that printing-presses must have started here very soon after the invention or introduction of the art by Caxton. It appeared from registers that in 1556 there were thirty-two booksellers and publishers in London, and in 1557 there were thirty-three, and in 1558 there were thirty-six, and the curious fact had been revealed that of these thirty-two printers in 1556, no less than fifteen of them lived in St. Paul's Churchyard, eight in Fleet-street, two in Lombard-street, one in Aldersgate-street, and one in a locality unknown. The shops of the booksellers and printers were in some cases situated at the doors of the cathedral, as in the case of John Kingston, who had his stall at the west door. Most of the early printers had signs attached to their houses: thus, Richard Jugge dwelt at "The Bible," at the north door of the cathedral; and the widow Toy at "The Bell," in the churchyard. In 1556 there were Reginald Wolf at "The Brazen Serpent"; John Turk at "The Cock"; William Seres at "The Hedgehog"; John Cawood at "The Holy Ghost"; Abraham Veale at "The Lamb"; William Burham at the "Red Lion"; John Wright at "The Rose"; Michael Labby at the "St. Michael"; Anthony Kitson at "The Sun"; John King at "The Swan"; Andrew Hester at "The White Horse"; besides John Kingston, all in St. Paul's-churchyard. Of these, John Cawood was Royal Printer under Queen Mary, at a salary of 6*l.* 13*s.* 4*d.*, and he was continued in office with Richard Jugge (aforesaid) under Queen Elizabeth. John Cawood was a Warden of the Stationers' Company, and a frequent benefactor to the Guild. Another well-known printer at that time was John Day, whose enterprise and business capacity raised around him a host of enemies. In conclusion, the author said that time did not permit him to speak of the works of our

great dramatist, and other precious gems of literature, which were printed and published in the seventeenth and eighteenth centuries under the shadow of the Cathedral, nor of the lamentable losses to literature caused by the Great Fire of London, when all the printers and booksellers stored their stocks of books in the vaults under Old St. Paul's, which were entirely consumed. Under the presidency of Dr. Freshfield, the members and friends afterwards dined together in the evening at the Cannon-street Hotel.

ROYAL SOCIETY OF ANTIQUARIES OF IRELAND.—A general meeting of the Royal Society of Antiquaries of Ireland was held on Monday, in the Town Hall, Kilkenny. The chair was occupied by the Rev. Dr. Walsh. The Chairman regretted that Lord James Butler, the President, was not able to preside. Mr. La Touche referred to the work done in behalf of Irish archæology by Miss Stokes. He said that she had done more than any other person for the knowledge and dissemination of early Christian art in Ireland. An ancient milk-churn and remains of a wooden dish, conjectured to be fifteen or sixteen centuries old, were exhibited, both having been forwarded by the Rev. Dr. Frazer. The following papers were then read:—"Primitive Churches in County Dublin prior to the Anglo-Norman Invasion," by Mr. W. F. Wakeman; "Notes on some Antiquities in the city of Kilkenny," by Mr. P. M. Egan; "Notes on Kells," by Rev. W. Healy. The papers were referred to the Council for publication.

SOCIETY OF ANTIQUARIES OF SCOTLAND.—The concluding meeting of this Society for the present session was held on the 11th inst., Mr. James Macdonald, LL.D., Glasgow, in the chair. Papers were read by Mr. J. Romilly Allen on the sculptured stones older than the twelfth century, and bearing symbols and Celtic ornament, in the district of Scotland north of the river Dee, obtained under the Victoria Jubilee Gift of Dr. R. H. Gunning; by Dr. Allan Macnaughton, Taynuilt, on his excavations in the South Fort in the Island of Luing, resulting in the discovery of one of the pillar-stones of the gateway, sculptured with groups of cupmarks, and the disclosure to some extent of the character of the structure; by Mr. Malcolm M'Neill on the discovery and excavation of a burial mound of the Viking period in the island of Oransay; and by Mr. Hugh W. Young, of Burghead, on the construction and characteristics of the ramparts of the fort at Burghead as revealed by recent excavations carried on by him in the course of last season. Mr. Peter Miller continued the controversy as to the site of John Knox's house, and maintained that he had produced evidence to show that it was in Turing's Close and not on the High-street. Mr. A. Hutcheson, architect, Broughty Ferry, gave a notice of the examination of a burial mound accidentally discovered at Gilchorn, parish of Inverkeillor, some months ago. Mr. A. B. Richardson, curator of coins, gave a detailed description of the coins in the Skye find recently reported.

THE "EDDYSTONE LIGHTHOUSE" AT THE NAVAL EXHIBITION.

IN our last issue we promised to give some particulars of the model of the new Eddystone Lighthouse at the Royal Naval Exhibition. Designed by Mr. John J. Webster, M.Inst.C.E., of Liverpool, it forms one of the most conspicuous, and one of the most interesting features of the Exhibition. It is a full-sized representation of the new Eddystone Lighthouse as designed by Sir James N. Douglass, F.R.S. The model externally is, as nearly as possible, allowing for difference of material, a perfect representation of the original structure; the windows, doors, ladders, lantern, and even the courses and size of the stones being accurately copied. Internally the structure consists of a steel and iron framework, covered first with wooden battens and "expanded metal" netting, which in their turn receive the fibrous plaster, the natural colour of which very nearly approaches that of the granite in the original structure. The framework consists of six braced main ribs radiating from the centre, and so constructed that when erected a clear hexagonal space 9 ft. wide is left in the centre, in which are placed the two passenger lifts for taking visitors to the top. The ribs are constructed of steel and wrought-iron rolled beams, T, L, angle, and flat bars firmly bolted together, each rib being divided into thirteen bays, the level of each bay corresponding with the floor lines in the original structure. The main ribs are secured by thirty-six strong iron bolts firmly attached to strong anchor plates embedded in cement concrete nearly 20 ft. below the surface of the ground, to ensure the stability of the structure during gales.

The height of the structure from the ground to the top of the lantern roof is about 170 ft., and the base is 44 ft. diameter, and 19 ft. high, from this base, which has vertical sides, springs the curved structure, having a diameter of 35 ft. 6 in. at the bottom, and of 19 ft. at a point 6 ft. below the lantern platform. From this point the structure swells out to a diameter of 24 ft. at the platform, upon which is erected the lantern to receive the lighting apparatus. The lantern is 14 ft. diameter, thus leaving a gallery of 5 ft. wide all round; it is 16 ft. 6 in. high, and is glazed with diamond-shaped panes, as in the original, the whole being surmounted by the wind vane, which is a copy of the original, and is 8 ft. long.

There are nearly 100 tons of iron and steel in the structure, made up of over 1,000 pieces, all of which have been marked, drilled, cut or bent to the required shape, so some idea can be formed of the immense amount of planning and labour entailed in the construction of what is only a temporary structure.

The passenger lifts referred to have been specially designed for the structure, the first consideration having been given to the safety and comfort of the visitors ascending. They have been constructed by Messrs. Waygood & Co., of Falmouth-road, London, and consist of two cages, each capable of holding eight passengers, worked somewhat on the principle of those on the cliffs at Scarborough and at Folkestone. A tank is placed under each cage with valves so arranged that it can be filled or emptied in a very short space of time. The cages act simultaneously, being connected by steel wire ropes over pulleys at the top, so that while one is discharging the passengers at the top, the other is being filled at the bottom. To put the cage in motion, the tank of the top cage is filled with water and that of the bottom one emptied, so that the top car descends by the action of gravity, and pulls up the other one. The speed of the cages is regulated by an ingenious "cataract" cylinder, actuated by the man in charge, and automatically when the cages approach the top or bottom. This cataract cylinder, it is claimed, ensures perfect safety, and is most simple in its action; an additional security, however, is obtained by means of a powerful friction brake on the top shaft, so that there is not the slightest possibility of the cages "running away." The steel ropes which sustain the cages are four in number, although, according to the engineer, one rope alone is sufficient to bear the whole load of the cages when full of passengers, and allowing a large factor of safety. Again, should the ropes break, powerful grips immediately clutch the vertical guides, and the cages would not fall more than an inch before they would be brought to a standstill. Powerful steam pumps are fixed in the basement to force the water into the tanks at the top, whence the water flows to actuate the cages; these pumps are in duplicate. The cages are made of polished walnut and other ornamental woods, well upholstered, and fitted with bevelled mirrors and ornamental lead lights in the roofs.

The structure is illuminated at night by a powerful revolving electric light, the lenses and revolving machinery being constructed by Messrs. Chance & Co., of Birmingham, and the electric lamp by Messrs. Siemens Bros.

The whole structure was designed, as already mentioned, by Mr. John J. Webster, M.Inst.C.E., and has been erected under his superintendence by Mr. D. Charteris, builder and contractor, of Page-street, Westminster, the steel wire-cables for the passenger-lifts being specially manufactured by Messrs. Bullivant & Co., of Milwall.

LOCAL BOARD OFFICES, PENARTH.—The formal opening of the Penarth Local Board offices took place on the 15th inst. The new offices, which are situated in Albert-road, are built from designs prepared by Mr. Court, the carrying out of them being entrusted to Mr. Havelock Cornish. Mr. M. H. Tape, of Penarth, was the contractor. The front elevation of the main building is designed in the Renaissance style, the balcony resting on stone corbels. The flooring of the entrance-hall consists of red, black, and buff tiles from Messrs. Ed. Smith & Co., Coalville. The stairs are of pitch-pine, with mahogany hand-rails and newel-posts.

Correspondence.

To the Editor of THE BUILDER.

"PROGRESS IN ARCHITECTURAL RESTORATION."

SIR,—I have read with some pleasure and interest Mr. Arthur Cawston's letter in your last issue (p. 395) with reference to the Abbey restoration. Though I am not able to agree with all he says, yet the subject of variety in architecture and irregularity in spacing out of detail is a matter in which I have always taken a peculiar interest. The remark that was made by a celebrated French writer,—namely, that "variety is the spice of life, that it makes even ugliness bearable, and invests beauty with superior attractions,"—is one of the truest things ever uttered; but I cannot go quite so far as to believe that the employment of left-handed masons would lend an added charm to the tooled masonry; though, as to the spacing out of corbels, it is highly probable that an unequal spacing would impart a certain amount of life and vigour to the building.

What can be more charming than the undulating surface of the pavement of St. Mark's, Venice, whether it was arrived at by accident or design? What is it that imparts dignity and beauty to the west front of that building but its variety and somewhat incongruous treatment, and the loose setting out of its pillars and corbels?

It is impossible to say whether the Mediævalists did purposely set out their buildings in this haphazard manner, but if we measure almost any ancient village church, we seldom find the building set out with any great precision, and the chancel and the nave are seldom on the same axis. The inclination of Our Saviour's head upon the cross has been assigned as the reason for this, but we have no certain evidence of it.

The niches on the central gate at Rouen, which is one of the most exquisite examples of Flamboyant work, has about 176 subservient niches, and the tracery is varied in almost every compartment.

The north transept of Westminster Abbey cannot compare with this for variety, but nevertheless Mr. Pearson in this latest example of Gothic restoration has, by the vitality which he has imparted to the work, pointed out the means by which we may in some measure hope to progress towards the attainment of architectural beauty.

May 20. W. HILTON NASH.

HORROCKS'S OBSERVATION OF THE TRANSIT OF VENUS.

SIR,—Adverting to your recent notice of Mr. Eyre Crowe's picture in the Royal Academy Exhibition, it may perhaps be of some interest to recall that Horrocks observed the transit of Venus at Hoole, near to Preston, on Sunday, December 4, 1639, being then twenty years of age. Anxious to witness a phenomenon which, it is believed, had never before been noticed, and to verify his own predictions, he began his observations on the previous day; but as he himself records, did not, the while, "neglect his higher duties for these pastimes." The time of day was just before sunset, and the tube he used was, I think, about 30 in. long by 1½ in. in diameter. His account of the observation, "Venus sub Sole Visa," was published by Hevelius in his treatise, "Mercurius in Sole Visus," at Dantzic in 1662. Horrocks died at Toxteth, his native place, on January 3, 1641,—*teste* Sir David Brewster's article in the Imperial Dictionary of Biography. He is commemorated by an addition to John Conduitt's monument at the west end of the nave, Westminster.

May 19, 1891. W. E. D.-M.

*** Our correspondent's remarks do not, however, explain the nature of the instrument used in his observation, the delineation of which in the picture is not very comprehensible.

THE R.I.B.A. ELECTIONS.

SIR,—Too many of the members of the Council and Standing Committees have either never attended any of their meetings during the past session, or otherwise have only done so once or twice.

It would be regrettable if these should be allowed to stand in the way of others able and willing to give due attention to the necessary business of the Institute.

May 20, 1891. A FELLOW.

COLOUR FOR SURFACE OF TENNIS COURT.

SIR,—A friend of mine is about to lay a cement tennis court, and wishes to have the surface coloured green. He has tried mixing ordinary dry colour with cement. This kept its shade while the cement was wet, but by the time the cement was dry all colour had disappeared.

If any substance can be had which may be mixed with the cement, and will retain its colour, my friend wishes to have it, but failing this he will colour the surface after the cement is dry, and in

this case wishes to have the best possible colour suitable for the purpose.

We do not know at present what cement will be used. My friend is resident in Italy (the Lake District).

Can any reader of the *Builder* give any information on the subject? J. T.

LOST, STOLEN, STRAYED, OR DELAYED?

Sir,—On January 21 last I, with other confiding architects, prepared designs for public baths and library for the Corporation of Dewsbury. At present we are without any private or public acknowledgment that they have been received; and if I write and ask, I am at once disqualified by the terms of the competition.

Ars Longa Vita Brevis.

The Student's Column.

VENTILATION AND WARMING.—XX

WARMING.—GENERAL PRINCIPLES.

In considering the general principles on which the practice of warming depends, we may with advantage begin with the manner in which heat is transmitted.

This is generally described as including four varieties of operation,—radiation, conduction, convection, and circulation. These three latter may really be grouped into one, as in all of them heat is transmitted primarily by the contact of a heated molecule of matter with others adjacent, the term conduction being applied to the transference of heat from one molecule to others when they do not themselves change their position, as in the case of solid bodies, while convection and circulation are virtually the same process, regarded from different standpoints, and refer to the transmission of heat by mobile molecules, as in fluids, whether gaseous or liquid. Convection and circulation, indeed, strictly-speaking, are rather hydrostatic and pneumatic phenomena, as the actual transference of heat from one molecule to another is by actual contact, as in the case of what is usually called conduction in solid bodies.

Radiation, on the other hand, is totally distinct in kind from all contact transference of heat. By radiation we mean the physical process by which heated matter imparts a portion of its own heat to other matter of a lower temperature, but not in contact with it.

To discuss the theories as to the medium and manner of radiation would be somewhat beyond the scope of these articles, but there are various facts connected with the phenomenon of radiation which are important in their bearing on the practical question of the warming of buildings.

First amongst these, from our point of view, is the difference between the radiation from luminous and obscure sources of heat, for a knowledge of which we are indebted to the investigations of Professor Tyndall. By luminous sources of heat are meant those heat-giving bodies which are in a state of incandescence, and therefore light-giving, such as the sun, open fires, gas, &c. Obscure sources of heat are those which do not give off light as well as heat, to which class belong the hot-water and steam pipes we are wont to employ. It may also be noted that from luminous sources there are obscure heat-rays as well as luminous. This to us is only important because the rays from obscure sources of heat are inferior, in point of intensity, to the obscure rays from a luminous source.

The most important difference to us, practically, between the heat from luminous and obscure sources is that the radiation from the former is vastly more powerful than from the latter.

Another important point is the variation in the diathermancy of different atmospheres to the heat radiation from the two classes of luminous and obscure sources of heat.

Atmospheric air is diathermanous, though not perfectly so,—that is, it admits of the passage of heat through it by radiation, without becoming itself raised in temperature.

Now, water and water vapour are highly opaque or adiathermanous to all radiation from obscure sources of heat.

Hence, in an atmosphere of a high degree of humidity the preponderance of efficiency in favour of luminous sources of heat is considerably greater than in the case of drier atmospheres.

We have frequently all of us heard scornful remarks on the extravagance of our English open fireplace as compared with the more economical hot-water pipes and stoves of America and Germany.

But the researches of Tyndall show us that the Englishman's instinctive preference and love for his open fire has a sound scientific basis. In our moist atmosphere, with its average 75 per cent. of humidity, the open fireplace, with its luminous heat-rays, is far less wasteful as compared with the hot pipes or close stoves than it would be in the drier atmosphere of Germany, with an average of 50 per cent. humidity, and still less by comparison with the dry atmosphere of America, with 30 per cent. humidity.

In the practical application of heated pipes or close stoves, we are, therefore, at a disadvantage as compared with our Continental or American *confrères*, and it would be unsafe to rely upon their experience for data as to the requisite amount of heating surface for any particular purpose.

Another universal law affecting the radiation of heat is of high importance in determining the form of our heating agents. This is the law of inverse squares, which may be thus stated: the intensity at different distances from the source of radiation is inversely proportional to the square of the distance.

This law prevents our utilising open fires for rooms of large size, and we are therefore driven to the employment of hot pipes for the sake of the convenient distribution of heat-sources of which they admit.

We have now to consider the phenomenon of conductivity of matter in regard to heat. This is of a twofold nature. First, absolute or calorimetric conductivity; second, thermometric conductivity or diffusivity.

As an example of the difference between these, we may instance the different effects that would be produced in the following experiment:—If two bars of different metal, but of the same size and shape, and having an exactly similar surface, are placed end to end, and to their under surfaces small wooden balls are attached by wax, at equal distances along the length of the bars; then if heat is applied at the contiguous ends of the bars, the balls will drop off in succession. The first ball will drop off directly the temperature of the point at which it is attached becomes equal to the melting point of wax, and provided the distance of this point from the source of heat be not too great, the time required for this to take place depends on the diffusivity of the material of the bar. The balls will begin to drop off first from the bar which has the greater diffusivity but the greater number of balls will ultimately drop off from the bar which has the greater absolute conductivity, because the greater the flow of heat along the bar, the further will the rise of temperature necessary to melt the wax be transmitted.

The diffusivity of materials is sometimes spoken of as their specific heat, which may be defined as the amount of heat necessary to raise the temperature of a solid or liquid body a certain number of degrees, and as water is a substance of great specific heat, the unit of heat is taken in England as the amount necessary to raise by 1 deg. the temperature of 1 lb. of water at 32 deg. Fahr., that is, from 32 deg. to 33 deg. Fahr. What is known as the C.G.S. unit is better recognised in scientific circles for the measurement of absolute conductivity. This is the amount of heat flowing in one second through one square centimètre of a plate one centimètre thick, having a difference of one degree Centigrade between the temperature of its faces. The co-efficient by which the product of these factors must be multiplied for the amount of heat for any particular substance is the measure of the conductivity of that substance.

From the varying power of different substances in respect of absolute conductivity and diffusivity results their varying suitability for the environment and structure of heating apparatus. A substance of great specific heat attains its maximum temperature, or what is called the permanent state, more slowly than one of less specific heat, but, on the other hand, is able to convey a larger amount of heat.

Thus water is a liquid of high specific heat as compared with other liquids, such as alcohol or oil, for example; therefore, water is a more suitable fluid than these others for the transmission of heat in pipes.

Again, cast-iron is a material both of higher specific heat and higher absolute conductivity than wrought-iron; therefore, other considerations not being taken into account, cast-iron is more suitable than wrought-iron for the pipes to enclose the hot water.

The conductivity, whether absolute or thermometric, of various materials is an important factor in the deperdition or loss of heat which occurs from the brick or other channels in which heated pipes may be enclosed, or from the construction of the environment of the heated space.

The ideal environment would be composed of materials of small absolute conductivity as well as low thermometric conductivity or diffusivity.

Thus brick is, in both kinds, of less conductivity than stone; hence, brick walls are less wasteful of heat than stone, and render it easier to warm a brick building than a stone one.

It must not be taken for granted that a material of low absolute conductivity is also of low diffusivity. Thus, water is a case in point; its absolute conductivity is very low, but its diffusivity is very high.

Again, wood, though of lower absolute conductivity than brick in the proportion of about 1 to 4, has a diffusivity of about four times that of brick. This explains why wood is apt to become charred by prolonged exposure to a heat which at first is insufficient to produce that effect. This phenomenon is frequently noticed in the case of wood placed in too close proximity to hot-water pipes, and in the case of boarding and timbers which have been covered by copper roofs for a long period, and have frequently been found charred to a considerable depth, merely by the heat of the sun in our own country.

The deperdition of heat is a factor which forms an important item in the determination of the necessary amount of heating power which should be supplied for the warming of any particular building, and this we shall have to take into account.

OBITUARY.

Mr. Edwin Long, R.A., died at his house in Netherhall-gardens, Hampstead, on the 15th inst., from pneumonia following an attack of influenza. He was born in 1839, and was elected an Academician in 1881. He at first confined himself to portrait-painting, and never entirely gave up this branch of art, but he is best known as a painter of scenes intended to be illustrative of Oriental and Classical antiquity. Among his pictures may be named the "Babylonian Marriage Market," painted in 1875, and followed two years afterwards by the "Egyptian Feast." Among Mr. Long's later works should be mentioned "Anno Domini," which was exhibited in 1883; "Diana or Christ," in 1881; and "Pharaoh's Daughter," in 1886.

Mr. Thomas Collier, R.I., a well-known landscape-painter, who died last week at Hampstead, had (says the *Times*) been ill for nearly a year after undergoing an operation in the summer of 1890. Born in Derbyshire in 1840, he showed a natural taste for drawing early in life, and studied at the Manchester School of Art. His work was mostly in water-colour. He was for many years a member of the Royal Institute of Painters in Water-Colours. Last year a collection of his paintings was exhibited by the Birmingham Society of Fine Arts; and a similar exhibition was being arranged for this season by the Fine Art Society in Bond-street.

Mr. C. E. Bruton, A.R.I.B.A.—The *R.I.B.A. Journal* records the death of Mr. C. E. Bruton on the 1st inst. He was the son of Mr. E. G. Bruton, F.S.A., F.R.I.B.A., of Oxford, who has been a member of the Institute since 1855. He was born in 1866, and, having been educated at All Saints' School, Bloxham, served his articles with his father. In November, 1889, he passed the Examination in Architecture, and was elected an Associate on January 13 last.

Mr. Charles P. Pritchett.—The *Leeds Mercury* of Tuesday last records the death of Mr. Charles P. Pritchett, formerly a well-known and respected architect in Huddersfield, and junior partner in the firm of Pritchett & Son, formerly of York. They were the architects of Huddersfield College and of the Huddersfield Railway-station.

M. Deck.—The Paris correspondent of the *Times*, in reporting that the head of the pottery establishment at Sèvres, M. Deck, died on Saturday last of congestion of the lungs, writes:—"It was owing to his activity and that of M. Parvillee that the famous establishment at Sèvres recovered its *prestige* at a time when it seemed to be fast losing its distinction as the home of originality in the ceramic art. M. Deck had risen to his high office from the position of a common journeyman. His main interest always was rather in earthenware than in the more refined forms of porcelain and china, but the beauty of his famous turquoise blue and the ease with which he secured a number of other

delicate and limpid tones have given him a renown among collectors of faïence which is likely to perpetuate his name. He was born in Alsace in 1823. Arrived in Paris after travel and work in Germany and Austria, he studied in the *atelier* of the sculptor Friederich."

GENERAL BUILDING NEWS.

THE PROPOSED BELL-TOWER FOR ST. MICHAEL'S COVENTRY.—The *Coventry Herald* of the 15th inst. refers to the fact that in November last the three assessors—Mr. Ewan Christian, Mr. R. Norman Shaw, and Mr. Alfred Waterhouse—whom Mr. George Woodcock consulted in reference to the question of a bell-tower for St. Michael's, reported in favour of the project. They expressed an opinion that to throw the preparation of designs open to competition would be undesirable, and that the views of those interested would be best served by entrusting the work to an architect of undoubted ability and experience. Upon the recommendation of the assessors, Messrs. Paley & Austin, architects, Lancaster, were entrusted with the preparation of the design, which was received last week and exhibited at the King's Head Hotel for the inspection of the vicar (Rev. Dr. Mills), the churchwardens, and others. The site of the campanile is that recommended by the assessors immediately on the north side of the avenue traversing the churchyard from east to west, and opposite the two western windows in the north wall of the Chapel of St. Lawrence. According to the *Herald*, the tower will be connected with the church by a low porch or groined corridor extending across the avenue, over which it will be arched, thus not only connecting the tower with the church, but giving the church an additional entrance. This, in the opinion of the assessors, is a matter of considerable importance from the point of view of public safety. The position of the tower itself is such as to enable the designers to impart a character of solidity to its base such as the assessors held to be an element of primary importance in respect of the beauty, strength, and dignity of a structure devoted to the purpose of carrying bells. The upper part is much more ornamental than the lower, possessing a grace and delicacy of design which harmonises perfectly with the existing towers of St. Michael's and Holy Trinity. The base of the tower is 50 ft. square, including the buttresses, and the interior forms a square of 22 ft. sides. The walls in the lower stages will be 7 ft. thick. The height of the tower to the battlements will be 137 ft.—6 in. higher than the battlements of the present tower. Above the battlements at the corners, pinnacles, 30 ft. high, will be placed, and from the centre of the roof will spring a spire 50 ft. higher than the battlements. The tower will be divided into five stages. On the ground-floor will be an assembly-hall; the second stage will serve as a Vestry or Chapter-room; the third will be the ringers' room; the fourth is for the accommodation of the clock; and the uppermost stage will carry the bells at about their old level from the ground. The turret staircase by which to reach the various stages will be at the south-east corner, and there will be an entrance to the assembly-hall on the ground-floor near the south-west corner of the structure. The walls of the lower stage will only be pierced by six small square-headed windows, two on each of the exposed, or east, west, and north faces of the tower. The windows in the next stage are on the east and west sides, and in the ringers' chamber on the north and south sides. At this altitude statues will be placed in niches similar to those on the old tower. The clock-room will be lighted by two windows on each of the four sides, and, although it is below the bell-chamber, the clock-face will be placed almost at the top of the tower, immediately below the battlements. The tower will be built probably of Runcorn stone, in keeping with the present building. It is proposed shortly to exhibit the drawings at St. Mary's Hall or the Free Library for public inspection, and afterwards to call a meeting of the citizens with a view to raising 5,000*l.* to ensure Mr. Woodcock's offer to contribute the remainder of the cost.

NEW ROMAN CATHOLIC CHURCH AT CARLISLE.—On the 18th inst. the foundation stone of a new Roman Catholic Church, which is to be built in Warwick-square, Carlisle, at a cost of 10,000*l.*, was laid by the Bishop of Hexham and Newcastle. The architects of the new church are Messrs. Dunn, Hansom, and Dunn, of Newcastle-on-Tyne.

CONSECRATION OF ST. SAVIOUR'S CHURCH, OXTON.—The new parish church of St. Saviour's, Oxton, was consecrated on the 7th inst. by the Bishop of Chester (Dr. Jayne). The church, which is situated on the site of the former edifice, will accommodate about 800 persons. The necessary additional land was given by the Earl of Shrewsbury, the lord of the manor. The church is cruciform in plan, but differs from the conventional arrangement. The aisles serve as ambulatories, whilst the nave, being of unusual width, enables the congregation to see and hear the services without any obstruction of columns. The length of the church from east to west is 141 ft., across the transepts 68 ft., and the nave roof rises to a height of 57 ft. from the floor. The south transept will serve as a morning chapel. A parish-room is provided in the basement. The exterior is of Frankby stone, and the architectural features of red Runcorn stone, designed in the Early Decorative style, whilst the interior is lined with red Ruabon brick. The general contractor for the building was Mr. John Thomas, of Birkenhead, and the cost of the structure is estimated at between 10,000*l.* and 11,000*l.* The architects were Mr. C. W. Harvey and Messrs. Pennington & Bridgen, of Liverpool and Manchester.

NEW CHURCH, ST. MARY AT PONTYRHYL.—The memorial stone of the new church to be dedicated to St. Mary at Pontyrhyl, was laid on the 11th inst. by Miss Talbot, of Margam Abbey. The building will consist of nave, 51 ft. by 27 ft. 9 in., and chancel, 17 ft. by 13 ft., both under one roof, but divided internally by an arched open timber-screen, which is continued on the north and south sides of the chancel behind the choir seats, forming a vestry and organ-chamber. Above the communion rail is a lofty stone arch, dividing the chancel from the sacristy, which is 13 ft. wide by 9 ft. 6 in. deep, containing the altar table on a raised stone floor. The sacristy floor and that of the chancel will be tiled, as will be that of the passage in the centre of the nave, the floors of the vestry and organ-chamber being of wood-block. The whole of the church will be warmed by hot air on Porritt's system. The church is being built of local stone, the dressings being of Doulting stone, supplied ready for fixing by Messrs. Charles Trask & Sons, of Shepton Mallet. The pulpit and font will also be of the same material. The style of architecture is plain Early English, the windows, of lancet shape, being filled in with square leaded lights and cathedral glass. The building will accommodate a congregation of 260, and the estimated cost is about 1,200*l.* Mr. Hall is the builder, and Messrs. Bruton and Williams, of Cardiff, are the architects.

ALTERATIONS, HOLSWORTHY WESLEYAN CHAPEL. Alterations have just been made to Holsworthy Wesleyan Chapel, Devon, to increase the sitting accommodation. The alterations, which have been carried out by Mr. W. Wiffen, contractor, Holsworthy, include the removal of the old gallery and the erection of a new one extending nearly around the chapel. The front of the gallery is of open panel pitch-pine work. The entrance to the gallery will be from the vestry, in a portion of which has been built a staircase and lavatory; and the old two pairs of stairs which were at the back of the chapel have been removed, and the space thrown into the body of the chapel. The interior of the chapel has been renovated, and at the south-west end a new two-light tinted cathedral glass window has replaced the old one. Mr. A. Lauder, of Barnstaple, was the architect. The old pulpit is to be replaced by a new rostrum in the centre of the arch at the west end.

NEW MARKET FOR CARDIFF.—On the 8th inst., a new market, situate in St. Mary-street, Cardiff, and which has been erected at a cost of about 16,000*l.*, was formally opened by the Mayoress (the Marchioness of Bute). The new market in St. Mary-street occupies the site of the old market, with the space upon which stood the old police-station, the entire site covered being about 2,600 square yards. This site is of irregular shape, and within its area a rectangular hall has been constructed 200 ft. long and 81 ft. wide, the spaces between the sides of the hall and the adjoining properties being occupied by shops of varying depth, so that the space left for the public is square. This forms the general market, the space at the Trinity-street end (87 ft. by 28 ft.) being utilised for a fish market. The larger market is divided by four main avenues, forming a central block of shops and two double rows of stalls. The main avenues are divided by two cross avenues. Around the main walls of the building are lock-up shops. Encircling the building, and 14 ft. from the ground floor, is a gallery, 7 ft. wide, approached by a double staircase. The inner sides of this gallery are occupied by fifty-three lock-up shops. In the centre of the market is a raised office for the market inspector. The height of the roof is 53 ft., in the centre being a raised lantern light. The principals and purlins of the roof are of light lattice girders, the principals being trussed with wrought-iron struts and steel bar ties. The feet of the principals rest on wrought-iron stanchions, and are connected to them by wrought-iron spandrel brattices with ornamental fittings. A level gangway, outside, runs the full length of the main roof on each side to the rise of the lantern. From this all the windows in the roof can be opened, and it also gives access to the swinging vertical lights in the lantern, thus forming an exit for the air. Fresh air inlets are provided by the insertion of circular sashes in the windows encircling the market immediately over the gallery shops. The paving of the main market is executed in adamantine concrete, supplied and laid down by Mr. Hartnell, of Cardiff. The highest part of the floor is at the central aisle, from which there is a fall to either side of 6 in., channels, with movable covers, being inserted and connected at intervals with the drains. A lift to the gallery is in course of construction. This will be worked by hydraulic engines. The lift will be supplied by Messrs. R. Waygood & Co., of London. In the fish market, which is placed facing Trinity-street, there is accommodation for thirty stalls, fitted with marble slabs, all the work in connexion with which has been executed by Messrs. Corfield & Morgan, of Cardiff. This portion of the market is under a separate roof of three spans. The façade of the fish market has three stone pediments corresponding with the three gables on the roof. The central archway to the Trinity-street entrance is 17 ft. 6 in. wide. The contractor for the masonry work, &c., was Mr. James Allen, of Cardiff, whose contract amounted to 8,449*l.* Messrs. Handyside & Co., of Derby, were the contractors for the ironwork, their contract being 7,230*l.* Messrs. Morgan & Williams, of Cardiff, did the greater portion of the wrought-iron balustrades to the staircases. The architect for the building was Mr. Harpur, Borough Engineer, and the work was carried out under Mr. J. Morris, Clerk of the Works.

PRIMITIVE METHODIST CHURCH, SKELMERSDALE.—On the 16th inst. the memorial-stones of a Primitive Methodist Church and schoolroom were laid on a site in High-street, Skelmersdale, Lancashire. The church is to seat 230 persons, and is to cost about 1,200*l.* The contractor for the work is Mr. William Riding, of Ormskirk, and the architect is Mr. Richard Owen, Liverpool.

NEW INSTITUTE FOR THE TYNESIDE GEOGRAPHICAL SOCIETY.—What was formerly the Presbyterian Chapel, Barras Bridge, has been converted into an Institute for the Tyneside Geographical Society, and has just been opened by Sir Mountstuart E. Grant Duff. On each side of the vestibule there is a cloak-room. In the centre have been placed a pair of glass doors by which access to the hall is obtained. There are also doors leading from the cloak-room direct into the hall. The chapel seats have been removed and their places taken by chairs. The pulpit has given place to a platform, on each side of which there is a small ante-room, which will be used when the hall is let for balls or entertainments. The floor will seat 300 persons, while the gallery will accommodate 400 more. The seating of the gallery has not been materially interfered with, but in the centre, a place has been fitted up for the lantern and the operator. The walls of the hall have been covered with paper, while the other parts have been painted. At the back of the hall are two rooms. The larger of these apartments is to be used as the library, while the smaller one will be the office of the secretary. The building is lighted with gas and electricity. The general contractor has been Mr. James Lunn, builder, of Newcastle; Messrs. Henry Walker & Son have done the plumbing work and electric lighting.

NEW PRESBYTERIAN CHAPEL, EBBW VALE.—On the 11th inst. two memorial-stones of a new chapel for the Presbyterians of Willow Town, Ebbw Vale, were laid. The new chapel will cost 1,500*l.* Mr. W. S. Williams, Tredegar, is the architect, and Mr. Walter Morgan, Ebbw Vale, is the builder.

WESLEYAN SUNDAY SCHOOLS, PENRYN.—Memorial-stones of the new Wesleyan Sunday-school premises, Penryn, Cornwall, were laid on Whit-Monday by Mrs. Tobin, of Liverpool, and Miss Silcox, of Falmouth. Mr. Carkeek, of Redruth, is the contractor. Mr. J. Wm. Trounson, of Penzance, is the architect.

RESTORATION OF HARLAXTON CHURCH, NEAR GRANTHAM.—On the 12th inst., the Church of St. Mary and St. Peter, at Harlaxton, near Grantham, was opened, after restoration. The work of restoration has been carried out by Messrs. Rudd & Son, Grantham, under the direction of Mr. J. O. Scott, F.S.A.

NEW WELSH PRESBYTERIAN CHURCH, RUTHIN.—The new Welsh Presbyterian Church situate in Well-street, Ruthin, was opened on the 24th ult. The building occupies a commanding site, and is of Gothic design. The front portion of the Church is semi-circular on plan, and measures internally 55 ft. by 54 ft. Accommodation is provided for 550 persons. The sittings are arranged in circular-gallery form, with stepped aisles leading to the body sittings. A schoolroom is constructed at the rear and measures 41 ft. 6 in. by 24 ft., having minister's vestry, lavatory, and conveniences adjoining. A large room 54 ft. by 24 ft. forms an upper schoolroom over. One of the principal features of the Well-street elevation is a stone spirelet which springs from the square from the top of a large buttress, and rises in elegant octagonal form a considerable distance above the apex of the pediment roof, having an intermediate support from a flying buttress that springs from one of the pyramidal porch roofs. The height of the spirelet from the ground level is 70 ft. Arched windows and weathered offset buttressess are placed at regular intervals in the church walls. The side elevations are divided by flat arched-headed windows, having triplet mullioned frames placed therein. A pediment is also formed having mullioned traceries and cusped windows, and slate louvres formed with stone jambs in the apex. The buttresses, canopies, string courses, hood moulds, and all the dressings are of lime-stone. The main walls are constructed of stone from Wdfyyd quarry. The roof is semi-conical, and is intersected with the main pediment roofs. All the roofs are covered with Bangor slates and red ridge tiles. The interior of the building is fitted up with pitch pine. Wall-boarding is fixed

around the walls, and the principal timbers of the roof are exposed, and are dressed and varnished. In the four bays of the ceiling, ventilating perforated doors are connected to air-shafts that are attached to a Boyle's "Patent Air Extractor." The pulpit is of elaborate design, and has a deacon's pew in front and a decorated canopy behind. The seats are fixed in an isacoustic curve from the pulpit. The joinery work was done by Messrs. Jno. Owen & Co., of Liverpool. The heating apparatus was fixed by Messrs. Minshull, of Oswestry, and the glazing of the windows, which are of cathedral lead lights, was executed by Messrs. Hackland & Co., of Birkenhead. The architect is Mr. T. G. Williams, of Liverpool.

"NEW BANK PREMISES, MANCHESTER."—In our issue of 9th inst., p. 378, we gave a description of the new bank premises at Manchester, for the National Provincial Bank of England. We are asked to add that the passenger-lift therein referred to was made and erected by Messrs. R. Waygood & Co.

SANITARY AND ENGINEERING NEWS.

THE LONDON WATER SUPPLY BILLS.—Before adjourning for the Whitsuntide Recess, the Select Committee of the House of Commons upon the various London Water Bills dealt with a Bill promoted by the Southwark and Vauxhall Company, interrupting the consideration of the "London Water Supply" Bill for that purpose. With the main question before the Committee this Bill had no connexion, and it involved no question of principle, its object being to authorise certain capital expenditure required for circumstances of special urgency. In 1886 the Company obtained power to raise 300,000*l.* for works then necessary, and at the beginning of the present year 224,000*l.* of that amount had been spent. But the company had a rapidly-increasing district and growing demands for extensions. They are, however, at the end of their means. Among the works they wish to carry out are an enlargement of the filtering area at Hampton, which has been frequently urged upon them by the Local Government Board, and an expenditure of 100,000*l.* on the construction of three additional reservoirs at Nunhead. The company at present supply between 25,000,000 and 26,000,000 gals. of water per day derived from percolation through the gravel, and from the Thames at Hampton. The new Bill proposes to empower the company to raise any additional capital, not exceeding in the whole 300,000*l.*, by the creation and issue of debenture stock, and to attach to such stock any fixed and perpetual interest not exceeding the rate of 4 per cent. per annum. The proposed work at Hampton will cost about 33,000*l.*, and that at Nunhead about 100,000*l.*; and the company have sunk a well in the chalk at Streatham from which they hope to draw something like 4,000,000 gallons of the purest water daily. For the completion of that extension they also require further capital, and likewise for increased engine-power and some other purposes. The London County Council opposed the Bill to some extent, on questions connected with the sufficiency of the company's present works, and the necessity for raising the whole of the proposed additional capital; but after a brief consideration of the measure, and the examination of a few witnesses, the Committee passed the Bill, inserting, however, a new clause, brought up by the promoters on the suggestion of the Committee, providing that—"Of the moneys raised under the powers of this Act, 30,000*l.* shall be applicable only to the purpose of providing additional filtration; 85,000*l.* shall be applicable only for the purpose of providing additional reservoirs at Nunhead; 40,000*l.* shall be applicable only for the purpose of providing additional engines; 30,000*l.* shall be applicable only for the purpose of the Completion of the works at Streatham; 20,000*l.* shall be applicable only for the purpose of the completion of the high-pressure service; 40,000*l.* shall be applicable for the purpose of the extension of mains and services; and the balance may be applied to any of the above purposes, or the general purposes of the undertaking to which capital is properly applicable." The balance will probably be about 55,000*l.*, and the County Council objected to leaving so large an amount to the free manipulation of the company, but their contention was not allowed, and the Bill was eventually approved and reported to the House.

NEW BRIDGE OVER THE CLYDE AT GLASGOW.—The new Dalmarnock Bridge, at the end of Dalmarnock-road, Glasgow, was formally opened for traffic on the 6th inst. The bridge is a steel girder bridge of five spans, each of 54 ft. 8 in., resting on masonary piers and abutments. In its construction some difficulty was experienced with the foundations, the bed of the river being composed of muddy clay and sand, necessitating the sinking by the pneumatic method of caissons 63 ft. long and 9 ft. broad. The piers are finished with a granite impost from Ben Cruachan Quarry, while the superstructure consists of steel girders, cross girders, and buckled plates. There is a flooring of steel plates over the cross girders, and on these plates the roadway and footway are laid. The width between the parapets is 50 ft., and the roadway is 32 ft. broad, leaving 9 ft. on either side for footpaths. The outside girders have an ornamental *facia*, and are finished with an ornamental cast-iron parapet. Messrs. Crouch & Hogg, C.E., Glasgow, were the engineers of the bridge, and the contractor was Mr. A. H. Boyle, of Banknock, Bonnybridge. The entire cost of the bridge is 28,330*l.*

NEW PIER, DEVONPORT.—On the 15th inst. Lord St. Levan, Mayor of Devonport, opened the new pier at Mutton Cove, which the Corporation have erected at a cost of nearly 2,000*l.* The pier was designed by Mr. J. C. Inglis, C.E., and constructed by Mr. A. R. Debnam.

STAINED GLASS AND DECORATION.

WINDOW, PARISH CHURCH, CASTLE BROMWICH.—The chancel window of the Parish Church, Castle Bromwich, has just been filled with stained-glass. The subject depicted is the Saviour as the King of Heaven, surrounded by the celestial choir, and the whole of the upper portion of the window is occupied by the illustration. The work has been executed by Mr. S. Evans, of West Smethwick.

WOODFORD PARISH CHURCH.—The large east window of the new chancel of Woodford parish church has recently been filled with painted glass as a memorial to Mr. and Mrs. Knowles. The subjects illustrated are "The Annunciation," "Mary anointing Our Lord's feet," "Our Lord appearing to Mary in the garden," "Our Lord in the house of Martha and Mary,' and "The Marys at the tomb." The ornamental surroundings are treated strictly in character with the Perpendicular architecture of the church. The artists are Messrs. Chas. Evans & Co., of London.

EMMANUEL CHURCH, LEEDS.—Stained glass has been inserted into one of the three-light aisle windows by way of memorial to the late Mr. Joseph Woodhead and his wife. The window, which is one of a series intended to illustrate the principal events in the life of our Saviour, contains the Nativity, the adoration of the Magi, and Christ in the Temple. Messrs. Powell Bros., of Park-square, Leeds, are the artists.

WOODLESFORD CHURCH, YORK.—It is proposed to fill the transept windows of Woodlesford Church, Yorks, with stained glass in memory of the late Mr. Henry Bentley and his wife. The work is in the hands of Messrs. Powell Bros., of Leeds, whose designs for the whole have been accepted.

WINDOW, TRURO CATHEDRAL. — The two lights on the south side of the retro-choir of Truro Cathedral have just been filled with stained glass. These windows are the gift of members of the Bolitho family. In the first light is represented St. Peter, accompanied by St. James-the-Greater and St. Mark. In the second light the principal figure is that of St. James-the-Less, Bishop of Jerusalem, vested in high priestly robes, and accompanied by St. Matthew and St. Thomas. The work has been carried out by Messrs. Clayton & Bell, of London.

FOREIGN AND COLONIAL.

FRANCE.—The Municipal Council of Lyons, the native town of Meissonier, has given the name of the painter to what has hitherto been the "Place St. Pierre."——Early in June the Minister of Public Works will proceed to Aurillac to open a new Lycée, a barracks, and a new railway line from Aurillac to St. Denis. —— A new municipal museum has recently been inaugurated at Cette, by M. Roger Ballu, Inspecteur des Beaux-Arts.——There has just been cast in bronze, at the Paccard foundry, a large clock intended for the Sacré Cœur church at Montmartre.——A "Prix de Paris" has been founded in favour of young American artists, on the model of the "Prix de Rome." It is initiated by an American, M. Chanter, who has resided a long time in Paris, who has already founded the same prize for New York and Boston. At the request of M. Chanler, Messrs. Bonnat, Puvis de Chavannes, Carolus-Duran, Gérôme, Drgnan-Bouveret, and Benjamin-Constant have been constituted a committee to conduct the studies of the American "laureats" and classify them in order of merit.——Last Saturday M. Larroumet was duly elected to the Académie des Beaux-Arts in the place of the late Prince Napoléon. ——The Municipal Council of Paris has authorised the Arts Club of Rotterdam to organise an exhibition of the works of Dutch artists in the Ville de Paris Pavilion, to be open from November 15 to the end of the year.——The "Union Syndicate des Architectes Français" is organising an exhibition of the works of MM. Laisné, Millet, and Ruprich Robert, which will open at the commencement of June at the Cercle de la Librairie, Boulevard St. Germain.——A new square is being formed in Paris around the Musée Galliera. ——The Salon of the Champs Elysées (the old Salon, will be closed on Sunday and Monday next for the voting of the jury of awards.——The "Salon des Refusés" will open at the Palais des Arts Libéraux on the 29th, to close on June 30.—— The death is announced of M. Joseph Auguste Lafollye, Government architect. He had received medals in the Salons of 1868, 1870, and 1872, and obtained a medal of the first class in the Exhibition of 1878.——We have also to announce the death of M. Théodore Deck, director of the Manufacture Nationale de Sèvres. M. Deck was born in Alsace in 1823. He was well known for his works on ceramic art, and had received many official honours. ——The new Lycée Voltaire at Paris will be opened on July 14, on the occasion of the national fête.

NORWAY.—Of late years, as we have noted from time to time, considerable agitation has been on foot among Norwegian architects respecting the manner in which competitions for public buildings are carried out. It is maintained that no such rules as those observed in other countries are followed, and now another glaring instance is drawn attention to by the *Teknick Ugeblad*, the organ of the Norwegian Association of Architects, respecting the competition for a new church to be built, with public funds, in Hammerfest, burned down last year. In the official programme for the competition there is no mention whatever of either style, shape, position, or construction, nor of the number of designs required, their scale, time of delivery, or names of jury, nor are any prizes offered. Indeed, there is not even an invitation to native *architects* to compete. Any one who thinks himself able to do so is asked to send in designs! In consequence, the leading architectural organ calls upon members of the profession neither to compete in this nor similar competitions, and there is no doubt this suggestion will be acted upon.

DENMARK.—The Catholics of Copenhagen, who recently erected a great Catholic hospital, St. Joseph's, with chapel attached, are making arrangements for building two new churches in the Danish capital. An influential company has been constituted at Copenhagen for the construction of the new great "free" harbour there. The capital is 222,000*l.* The director has proceeded to Hamburg, Bremen, and Antwerp, in order to study the new dockworks in those cities.

SWEDEN.—The Swedish Export Association, established some years ago, and which has since done a great deal towards the introduction of Swedish manufacturers abroad, is establishing a sample office of such in London, similar to those already existing in some other cities. The Swedish Government supports the enterprise with a sum of 700*l.*——Prince Eugen, youngest son of King Oscar, and an amateur painter of high standing, has accepted the presidency of the Scandinavian Exhibition of Arts and Manufactures to be held in Gothenburg this summer. A congress of Scandinavian engineers, architects, manufacturers, electricians, &c., will be held in connexion with the Exhibition.——The builder of a house in Stockholm has been fined a sum of 150k. under the new Building Act for having stuccoed two houses erected by him, six months not having elapsed since such erection, and ordered to remove the material.——A great meeting has been held in Stockholm of men engaged in the building trades, at which it was resolved that between April 1 and October 1 the hours of no one in the trade should exceed ten a day, with two hours' rest. It is, however, doubtful whether the masters will agree to this.——New gasworks are to be constructed in the town of Gefle, at a cost of 5,500*l.*, as well as a new harbour.—— The Stockholm Sanitary Board has appointed a committee to consider whether some fireplace could not be invented—simple and inexpensive,—to prevent the production of smoke, as of late years the smoke nuisance in the Swedish capital has become greater and greater.

MISCELLANEOUS.

THE GOULBURN MEMORIAL PULPIT, NORWICH CATHEDRAL.—On the 14th inst. the new pulpit which has been erected in the choir of Norwich Cathedral as a memorial of work of the late Dean, Dr. Goulbourn, was used for the first time. The new pulpit, which is placed on the north side of the choir, is of carved oak. It has been designed by Mr. J. P. Seddon, F.R.I.B.A., of London. It is sexagon in plan, and stands 7 ft 9 in. in height. The floor of the new rostrum is 3 ft. 3 in. above the level of the cathedral floor, and is approached by a staircase from the east side. The type of architecture is Decorated. Standing in the centre of an embattled base is a central shaft, carrying the main portion of the weight above, and at the angles are six shafts, surmounted by crocketted ogee arches. The broad band of carving that surrounds the base of the pulpit immediately above this is a conventional representation of the vine and grapes. On each cant of the body of the pulpit are recessed and canopied niches. The latter are of ogee plan, and are groined and richly crocketted. In the spandrels between their heads is much richly-carved foliage, and the figures of angels with wide-spread wings and hands in the attitude of adoration. The book-rest is borne on the shoulders of an angel. The upper cornice is segregated and embattled. The statuettes are carved almost in the round. The two niches facing the column due north, and which can hardly be seen in consequence of the adjacent old masonry, are empty. The other eight are all filled. In the central niches respectively are representations of the four Evangelists, St. Matthew holding a T-square (emblematic of his original avocation as a carpenter), St. Mark and St. Luke, with pens, a book, and scroll, and St. John, long-haired and beardless, holding a book in one hand and a chalice

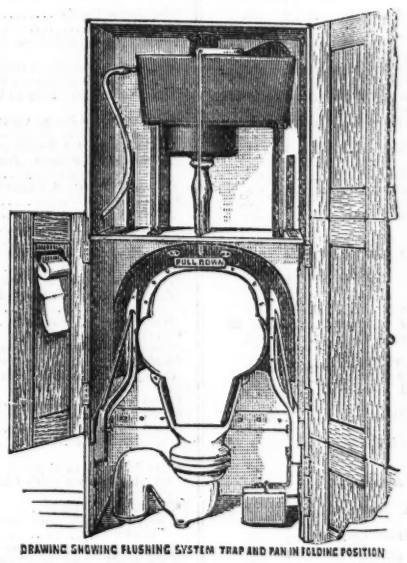
in the other, out of which is issuing an evil spirit. Next to St. John is St. Paul, a grave, bearded man, leaning upon a long sword. Occupying the angle niche by the entrance to the pulpit and against the stairs is a statue of St. James the Bishop (or as he is more generally known St. James the Less). Flanking the Evangelists on the north side are SS. Stephen & Peter. The handrail of the staircase is supported by clustered columns, carrying a continuons arcading of double ogee heads, cusped and crocketted, whilst the lower newel is surmounted by a sculptured representation of a kneeling angel. The work has been executed by Mr. Harry Hems, of Exeter. The pulpit has been placed *in situ* by members of Mr. Hems's staff. Sad to say, one of them (Mr. Mark Brock, a trusted member of Mr. Hems's staff for the last twenty years) was stricken down in Norwich on the 11th inst. by influenza, and was removed to the hospital, where he succumbed on the 13th inst.

THE ENGLISH IRON TRADE.—The holidays and the continued speculation in warrants have totally prevented business of any magnitude in the English iron market. Scotch warrants have been driven up excessively in price during the past few days, and the "Bears" have been completely cornered. On a falling market the abnormal rise in warrants is doing a great deal of harm to legitimate trade; but the present condition of things cannot be expected to last much longer. Scotch makers' iron, though quiet in tone, has advanced in sympathy with the warrant market, most brands being 6d. to 1s. higher, whilst Carnbroe is quoted at an advance of 4s. on the week. Middlesbrough pig has risen to 42s., or 2s. 9d. above last week's quotation, on account of the increased price demanded for Cleveland warrants. Bessemer iron has made a further advance of 2s., and is now offered at 54s. for mixed numbers of makers' iron, or the same price as hematite warrants. The quiet tone in the manufactured iron trade which has prevailed lately still continues, and there is no movement of any importance in the tin-plate market, but prices are again weaker. The steel trade continues generally in a state of inactivity, but prices have not further declined. The few fresh orders which have been given out in the shipbuilding trade are chiefly for sailing ships. In most branches of the engineering trade there is still a fair amount of work, and, owing to the colder weather, the coal trade is fairly brisk.—*Iron.*

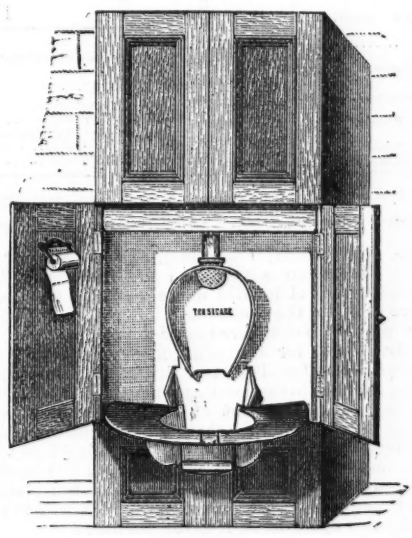
REREDOS, PARISH CHURCH, WEST KIRBY.—The Parish Church of St. Bridget, West Kirby, Cheshire, has been provided with an oak reredos. The reredos, which is erected by the parishioners, &c., was designed by Mr. Kempe.

ROYAL METEOROLOGICAL SOCIETY.—The usual monthly meeting of this Society was held on Wednesday evening, the 20th inst., at the Institution of Civil Engineers, 25, Great George-street, Westminster, Mr. Baldwin Latham, M. Inst. C.E., F.G.S., President, in the chair. Dr. M. G. Foster, M.A., and Mr. J. Robinson, J.P., were elected Fellows of the Society. The following papers were read:—1. "On the Vertical Circulation of the Atmosphere in Relation to the Formation of Storms," by Mr. W. H. Dines, B.A., F.R. Met. Soc. After giving an outline of the circulation of the atmosphere, the author refers to the two theories which have been suggested to account for the formation of storms, viz.:—(1) The convection theory, which is that the central air rises in consequence of its greater relative warmth, this warmth being produced by the latent heat set free by condensation; and (2) the theory that the storms are circular eddies produced by the general motion of the atmosphere as a whole, just as small water eddies are formed in a flowing stream of water. The author is of opinion that the convection theory is the more probable of the two, but more information about the temperature of the upper air is greatly needed. 2. "On Brocken Spectres in a London Fog;" by Mr. A. W. Clayden, M.A., F.R.Met.Soc., F.G.S. During the dense fogs in February last, the author made a number of experiments with the view of raising his own "spectre.' This he ultimately succeeded in accomplishing by placing a steady limelight a few feet behind his head, when his shadow was projected on the fog. He then made some careful measurements of the size and distance of the spectre, and also succeeded in taking some photographs of the phenomenon. 3. "An account of the 'Leste,' or hot wind of Madeira," by Dr. H. Coupland Taylor, F.R.Met.Soc. The "Leste" is a very dry and parching wind, sometimes very hot, blowing over the island from the E.N.E. or E.S.E., and corresponds to the Sirocco of Algeria, or the hot north winds from the deserts of the interior experienced in Southern Australia. During its prevalence a thin haze extends over the land, and gradually thickens out at sea until the horizon is completely hidden. It is most frequent during the months of July, August, and September, and usually lasts for about three days. Mr. Shelford Bidwell, M.A., F.R.S., exhibited an experiment showing the effect of an electrical discharge upon the condensation of steam. The shadow of a small jet of steam cast upon a white wall is, under ordinary conditions, of feeble intensity and of a neutral tint; but if the steam is electrified, the density of the shadow is at once greatly increased, and it assumes a peculiar orange-brown hue. The electrical discharge appears to promote coalescence of the exceedingly minute particles of water contained in the jet, thus forming drops large enough to obstruct the more refrangible rays of light. It is suggested that this experiment may help to explain the intense darkness, often tempered by a lurid, yellow glow, which is characteristic of thunderclouds.

DUNN'S "SESAME" CLOSET.—This is a water-closet which when in use has the same form, or nearly so, as that of the closets with lifting seat top without framing which are now coming so much into use. Its special feature is that it is capable of being folded up into a shallow recess in the wall, and closed over with folding doors. To use the closet, the doors are opened, which shows a handle marked "pull down," which turns the seat to its horizontal position (the pan and seat being



DRAWING SHOWING FLUSHING SYSTEM TRAP AND PAN IN FOLDING POSITION



READY FOR USE

balanced). After using, it is turned up to its folding position, by which means the soil is discharged into the trap, and at the same time automatically starts the syphon cistern, which flushes the entire surface of the pan. When in its upright position, and by special arrangement, there is the full quantity of water left in the pan to receive the soil. Water-pockets in the sides of the pan catch part of the flush when the seat is turned up, and are discharged into the bottom of the pan to receive the soil when the seat is turned down. The invention seems very suitable and convenient for use in ships and wherever space is of importance; it can also be applied as a bedroom-closet for use by invalids, being entirely concealed when not in use. The patentee is Mr. W. Dunn, of Albany-street.

THE ARTISTS' BENEVOLENT FUND.—The eighty-second anniversary dinner of this fund is fixed for Saturday, the 30th inst., at Freemasons' Hall, the Duke of Fife in the chair.

SOLICITORS AND ESTATE AND HOUSE AGENTS.—"An Estate Agent" writes to the *Birmingham Daily Post*:—"I have this morning received a printed circular from a solicitor advertising properties for sale by private treaty, and pushing house-agency business. This pushing advertising system of 'Jack-of-all-trades' solicitors is a nuisance, and should certainly be taken up by the Law Society. Solicitors must nowadays be a very different class of men to those of former days if they tolerate advertising solicitors who are money-lenders, house agents, lawyers, speculative builders, and estate agents, and who require to share all commissions belonging to those with whom business brings them into contact. It is generally understood that in every business transaction where a lawyer is necessary he takes all the cream; but, if this phase of the business is to be extended, as seems likely, to lawyers taking up every other business and profession under the sun, then, of course, cream, milk, and utensil must all go to them, and they will have to dispense their charity to the rest of the starving community."

BETHNAL-GREEN HOSPITAL.—A small exhibition for the benefit of a new cot for this hospital is to be opened at Morley Hall, Regent-street. It includes Landseer's drawings of Chillingham wild cattle, and a series of sketches during "A Cruise from Cowes to Naples," by Lady Tankerville. The exhibition will be opened to-day (Saturday) at 3 p.m. by H.R.H. the Duchess of Teck.

A RAILWAY THROUGH MANIPUR.—A glance at the map would appear to show that through Manipur would probably lie the ultimately certain connexion of the Burma Railway system with that of Bengal. The precise route would, of course, be a matter for very careful investigation, and it might quite possibly turn out that a railway located transversely to the formidable series of ridges would be a commercial failure. Still, politically speaking, the advantages of such a line would be very great, and as a means of transfusing the dense and the scanty populations, its value, Imperially, would be very high indeed. A railway engineer who has had special experience in selecting routes through difficult countries ought most certainly to accompany the columns from the Tammu, and another from the Silchar direction. We hope that this will not escape the attention of Government. There will in all probability be plenty of leisure and opportunity for such a reconnaissance afterwards; but, still, the exigencies of the situation, and particularly the present position of affairs revealed by the most recent and authentic advices, may for all we can tell render it expedient that the opening up of the country by survey should be dedeferred for a later opportunity.—*Indian Engineer.*

CAPITAL AND LABOUR.

THE THREATENED LOCK-OUT OF CARPENTERS AND JOINERS IN LONDON.—As will be seen by reference to a circular issued by the Central Association of Master Builders of London, on Thursday, the full terms of which we have quoted in our first "Note" this week, there seems to be little prospect of averting the threatened lock-out on Saturday, the 23rd.

WAGES IN THE BUILDING TRADE AT SHEFFIELD.—At a meeting of the master builders of Sheffield, held at the "King's Arms Hotel," on Saturday last, they were of opinion that there was no reason to alter the standard rate of wages from 5½d. per hour, and were fully agreed to adhere to the original resolution of May 5.

LEGAL.

A LIVERPOOL LIGHT AND AIR CASE:

DICKINSON *v.* THE LIVERPOOL COLD STORAGE COMPANY.

AT the Chancery Court of the County Palatine of Lancaster, held at St. George's-hall, Liverpool, on the 6th inst., judgment was given by Vice-Chancellor Bristowe in the case of Dickinson *v.* the Liverpool Cold Storage and Ice Company. The hearing of the case had occupied the court several days.

From the facts of the case, as reported in the *Liverpool Daily Post*, it appeared that the plaintiffs were Edward Dickinson and Edward Jones, trustees for the beneficiary owners of the Opera House Tavern, 11, Williamson-square, Liverpool, and the defendants a limited liability company who had purchased the old Theatre Royal and other premises adjoining those of the plaintiffs. They had converted the places purchased into cold storage premises. Plaintiffs sought for a mandatory injunction to restrain the defendants from interfering with their ancient lights. They sought also to restrain them from removing away soil affording lateral support to their walls or property, and from cutting off or obstructing a drain passing from plaintiffs' property through the defendants' property to the public sewer in Charles-street.

On behalf of the plaintiffs it was urged that defendants were erecting a large chimney, which would, if not stopped, materially diminish the ancient light of eleven windows in plaintiffs' premises, and threatened to raise their existing building considerably higher, which would further diminish such light. The defendants gave a general denial to the plaintiffs' allegations.

The Vice-Chancellor visited the premises, and expressed the opinion that the case was eminently fitted for settlement. The parties could not, however, agree upon terms, and the case was fully gone into.

The Vice-Chancellor delivered judgment with costs in favour of the defendants on the question of drainage and excavation. On the chief point of involving the loss of ancient lights he found that defendants' high wall had distinctly interfered with the plaintiffs' light, and the chimney slightly so, and in respect of this he awarded damages in lieu of an injunction, following the decision of Mr. Justice Pearson. He gave judgment in favour of the plaintiff for 134*l.*, with costs against the defendants in this portion of the case.

COMPETITIONS, CONTRACTS, AND PUBLIC APPOINTMENTS.

COMPETITIONS.

Nature of Work.	By whom Advertised	Premium.	Designs to be delivered.
*Completion of Tower and Spire to Church, Rotherham	.....	.....	June 13

CONTRACTS.

Nature of Work or Materials.	By whom Required.	Architect, Surveyor, or Engineer.	Tenders to be delivered.
*Riding School, Stables, and Sheds	War Department	*Official*	May 26
*Works and Materials	West Ham Council	do.	do.
*Roadmaking Works	Lewisham Bd. of Wks.	do.	do.
Fifty-four Houses, Cilfynydd Estate, near Pontypridd	Wood Street Building Club, Cilfynydd	T. C. Wakeling	do.
Excavating and Levelling Site of Fever Hospital	Corp. of Birkenhead	T. C. Thorburn	do.
New Distillery, Glenlals, Keith	.....	Gordon & MacBey	do
Private Street Improvements, Rochester	The Corporation	*Official*	do.
Drainage Work, Glebe Estate, Barry	.....	Phillips & Holdgate	do.
Residence at St. Andrew's, Dinas-Powis	T. Morel	Jacobs and Pickwell	May 27
*Broken Granite, Flints, &c.	Hackney B. of W.	J. Lovegrove	do.
House and Shop, Southmoor	.....	J. W. Rounthwaite	do.
Primitive Methodist Ch. and Schools, Middlesbro'	.....	J. Shields	do.
Construction of 163 yds of 18 in. Pipe Sewers at Stanley	Lancaster U.R.S.A.	J. E. Parker	do.
1,100 yds. Main Sewer	Selby Local Board	T. Mallinson	do.
Parish Church, Heckmondwike	.....	Peterson & Cowgill	do.
Cart Shed, Widnes	Widnes Local Board	J. S. Sinclair	do.
Excavating, Pitching, Sewering, Paving, Flagging, &c. Streets	do.	do.	do.
*Supply of Granite Spalls	Shoreditch Guardians	*Official*	do.
Intercepting Sewer, Hebble Brook	Halifax Corporation	do.	do.
Earthenware Pipe Sewer, Shaw Syke	do.	do.	do.
Alterations to Kategrove-road School, Reading	Reading School Board	J. Morris	do.
Sewerage Works	Stockton-on-TeesCorp.	*Official*	May 28
Water Supply, Carlton-in-Coverdale	.....	Redwell & Son	do.
Additions to Canonteign House, Christow, Exeter	Viscount Exmouth	W. F. Tollit	do.
Additions to "Crossways," Cowbridge	Thurston Bassett	Seward & Thomas	do.
Extension of Head Post Office, Glasgow	Com. of H.M. Works	*Official*	do.
Painting, &c. West Bromwich Workhouse Infirmary	The Guardians	T. Rollason	May 29
Alterations, &c. Presbyterian Church, Kilraughts, Ballymoney	The Committee	Young & Mackenzie	May 30
Sewage Treatment Works at Wath-upon-Dearne	Local Board	*Official*	do.
Six Villa Residences, Sowerby Bridge	.....	Lloyd & Son	do.
Cast Iron Sluices, &c. Threipmuir Reservoir	Edinburgh & District Water Trustees	J. & A. Leslie & Reid	June 1
A Pair of Labourers' Cottages near Hatt, Cornwall	Colonel Symons	S. P. Hosking	do.
Lodge and Gardener's House, Beveridge Public Park, Kirkcaldy	Town Council	J. W. Hislop	do.
*Erection of Arc Lights, Columns for same and Road Shelters	St. Pancras Vestry	Henry Robinson	do.
Offices for the Mercantile Marine Service	Board of Public Works, Dublin	.....	do.
Nurses' Residence, Wadsley Asylum, Sheffield	The Committee	J. McInery	do.
Presbyterian Church and School, Bedlington	.....	N. Macara	do.
Board School, Kingswood, near Wotton-under-Edge	Kingswood Sch. Bd.	W. L. Bernard	do.
*Iron Fence, Manhole Covers, Step Irons, Gratings, &c.	Hornsey Local Board	T. de Courcy Meade	do.
*Forming and Laying-out of a Public Park	Stockton-on-Tees Corp	K. F. Campbell	do.

CONTRACTS.—*Continued.*

Nature of Work or Materials.	By whom Required.	Architect, Surveyor, or Engineer.	Tenders to be delivered.
*Re-laying Pipe Sewer	Waltham Holy Cross Local Baard	C. W. Wiggs	June 1
Twenty Houses, near Prudhoe	Blaydon Dist. Prov. Soc. Lim.	.....	do
*Public Baths	Aston Manor Loc. Bd.	*Official*	do.
*Water Drain, Manholes, &c.	Mortlake Dist, Highway Board	H. Richards	June 2
*Oak Park Fencing	Battersea Burial Bd.	*Official*	do.
*Broken Granite	Braintree Local Board	do.	do.
*Four Houses with Out-buildings at Portsoy	Admiralty	do.	do.
*Erection of Stone Bridge over River Taff	Merthyr Tydfil Loc. Bd	do.	do.
*Kerbing and Drainage of Road	Leyton Local Bd.	do.	do.
*Wood Paving Works	Wandsworth B. of W.	do.	do.
*Painting, &c. Works	St. George's Union Guardians	H. Saxon Snell	[do.
*Repairing Roads	Borough of Croydon	*Official*	do.
*Road Works	Toxteth Park Loc. Bd.	do.	do
*Distempering, Painting, &c.	Poplar and Stepney Sick Asylum District	G. E. Holman	do.
Unbroken Whinstone (800 tons	Great Driffield L. B.	.....	do.
Tramp Wards, Coventry Workhouse	The Guardians	G. I. Steane	do.
Glass-room and Lobby to Girls' School	North Walsham Sch. Board	Bottle & Olley	June 3
*Restoration of Parish Church, Lynton	The Committee	H. Wilson	do.
70 tons of Steel Girders, with Cast-iron Cylinders, for Bridge over River Gowy	L. & N. W & G. W. Rys	*Official*	do.
Twenty-six Cottages, Inspector's Office, &c. near Mexborough	Manchester, Sheffield, & Lincolnshire Ry.	do.	June 4
Culvert, Sampford, Courtenay	Devon County Council	E. H. Harbottle	do.
*Wood Paving Works	Commrs. of Sewers	*Official*	June 5
Additional Buildings, Worcester Lunatic Asylum	The Committee of Visitors	H. Rowe & Son	June 6
*Sewerage Works	Atcham, R.S.A.	.....	do.
House, Whifferton, Brixton, Devon	W. P. Vosper	.....	June 8
*School Buildings	Brecon School Board	*Official*	June 9
*Paving Hight-street, Stratford	West Ham Council	Lewis Angell	do.
Painting, &c. Warren Farm Schools, Brighton	The Guardians	.....	do
Water Supply, Woodland	Teesdale U.R.S.A.	*Official*	do.
*Works of Main Drainage	Soothill Nether L. B.	[M. Paterson	June 11
Reservoir to Antony House, Tarpoint	.....	J. Haines	June 13
*Widening Bowes Farm County Bridge	Middlesex C. C.	*Official*	do.
College Buildings, Belmont, Belfast	Trustees of Campbell College	W. H. Lunn	June 15
*Road Works	Hanwell Local Board	*Official*	June 16
*Sewerage Works	Tottenham Soc. Bd.	J. S. Worth	do.
*Dredging Works	Medway Conservators	*Official*	June 22
*Police Stations	Carmarthenshire County Council	do.	June 29
*Seven Houses at Carnock Wood	.....	J. McNiece	No date
*Reinstating Two Brick Chimneys	Mitcham Linoleum & Floorcloth Co.	.....	do.
*Citadel at Rochdale	Salvation Army	W. Gilbee Scott	do.
Twelve Houses and Shop, Dolly-lane, Leeds	.....	C. F. Wilkinson	do.
Hotel, Blaen Llynci, near Maesteg	.....	G. F. Lambert	do.

PUBLIC APPOINTMENTS.

Nature of Appointment.	By whom Advertised.	Salary	Applications to be in
*Outdoor Foreman	Borough of Longton	2*l.*	May 26
*Assistant City Engineer	Cape Town Corp	300*l.*	do.
*Assistant (Borough Engineer's)	Stockton-on-TeesCorp.	150*l.*	May 28
*Outdoor Foreman	Borough of Hanley	2*l.* 2*s.*	June 1
*Clerk of the Works	Essex County Council	.....	No date

Those marked with an Asterisk (*) are advertised in this Number. *Competitions, p.* iv. *Contracts, pp.* iv., vi. *and* viii. *Public Appointments, p.* xxii.

COLLABORATION IN DESIGNING BUILDINGS:

GREEN V. ARCHER.

This was a somewhat curious action for alleged libel, and for an injunction restraining the defendant from further publishing the same. The case came before Mr. Justice Denman and a Special Jury on the 14th inst. From the report in the *Times* of the 15th inst. it appears that the plaintiff by his statement of claim alleged that from March, 1872, to October, 1889, he and the defendant carried on the profession of architects, in partnership, under the style or firm of Archer & Green; that they together designed and supervised the construction of many important buildings in London, and in particular 57, Jermyn-street, Whitehall-court, the Café Royal, Tooth's Gallery, Cambridge-gate, the Holborn Restaurant, and Albert-gate; that photographs and other representations of the buildings had been obtained by the firm before dissolution, and immediately after the dissolution the defendant falsely and maliciously wrote and published of or concerning the plaintiff in his profession as an architect in large letters at the foot of each such copy, "Designed by Thomas Archer, F.R.I.B.A., 14, Sackville-street, Piccadilly"; that the defendant caused one of the photographs to be framed and hung up in his office, and he sent a set of the photographs to each of the following persons:—Sir Nigel Kingscote (the First Commissioner of her Majesty's Woods, Forests, and Inland Revenues), Lord Rosebery, Lord Herschell, Mr. Ritchie, M.P., and Mr. Hobbs. The innuendo alleged was that the defendant intended falsely and maliciously to state of and concerning the plaintiff in his profession of an architect to the persons to whom the photographs were sent that the buildings were designed by him exclusively, and that the defendant had nothing whatever to do with the designing of them.

Mr. Willis, Q.C., having opened the plaintiff's case, stated that the plaintiff did not bring the action to recover damages; all he wished was that the defendant should withdraw the photographs and give an undertaking that they would no longer be produced as before, with the defendant's name alone appearing as designer.

The learned Judge intimated that something should be done by counsel to avoid a long inquiry.

Mr. M'Call, Q.C., for the defendant, said he was unable to come to terms. He had to submit that upon the opening and the pleadings there was no case. The action, if anything, was for slander of title. It was not a libel upon any individual. The statement of claim did not allege that the words were false to the defendant's knowledge, and that the plaintiff had suffered special damage.

Mr. Willis, for the plaintiff, urged that it was not an action for slander of title at all. The words were capable, in their ordinary meaning, of imputing to the plaintiff a want of skill. The words were capable of meaning that the defendant solely designed the buildings while the plaintiff and defendant were partners, and that the defendant designed the whole of the plans, and the plaintiff had nothing to do with them. Was not that a reflection upon the skill of the plaintiff?

Mr. Justice Denman said that, if he thought it was a case in which any good would be done to either party, he would have let the whole facts be investigated. But he did not think, as the action would not lie, that he ought to indulge either party, and allow them to occupy the time of the Court. He came to the conclusion that the statement of claim disclosed no cause of action, and he gave judgment for the defendant, with costs.

MEETINGS.

SATURDAY, MAY 23.

Architectural Association.—Visit to Mansions, Palace-court, South Kensington. Meet at 3 p.m.

Incorporated Association of Municipal and County Engineers. — Midland Counties District Meeting at Stourbridge.

MONDAY, MAY 25.

Royal Institute of British Architects.—Mr. H. W. Brewer on "Some Churches in the Neighbourhood of Cleves." 8 p.m.

Surveyors' Institution.—(1) Annual General Meeting to receive the Report of the Council and the announcement of the result of the Election of Officers for the ensuing year. 3 p.m. (2) Annual Dinner, Holborn Restaurant. 6.30 p.m.

TUESDAY, MAY 26.

Institution of Civil Engineers.—Annual General Meeting, to receive the Report of the Council and to Elect the Council and Officers for the ensuing year. 8 p.m.

Iron, Hardware, and Metal Trades' Pension Society.—Forty-eighth Anniversary Dinner at Ironmongers' Hall. Mr. Howard J. Kennard in the chair.

Statistical Society.—Dr. John Venn on "The Nature and Uses of Averages." 7.45 p.m.

THURSDAY, MAY 28.

Architectural Association.—Annual Dinner, Criterion Restaurant. 7 p.m.

Guild and School of Handicraft.—Mr. Francis Inigo Thomas on "The Relation of the Architect to the Handicrafts." 8 p.m.

Society of Antiquaries. 8.30 p.m.

Edinburgh Architectural Association. — President's Valedictory Address. 8 p.m.

SATURDAY, MAY 30.

Royal Institution.—Professor A. H. Church, M.A., F.R.S., on "The Scientific Study of Decorative Colour." I. 3 p.m.

Artists' Benevolent Fund. — Anniversary Dinner, Freemasons' Hall. 7 p.m.

Edinburgh Architectural Association.—Annual Excursion, Kinross House, Tullibole Castle, Aldie Castle, Cleish Castle, and Dowhill Castle.

RECENT PATENTS:

ABSTRACTS OF SPECIFICATIONS.

6,950.—VENTILATORS: *M. Rodger.*—The ventilating-shaft which is the subject of this patent terminates in a cap shaped like an inverted U, either rigid or revolving, one leg or extension, being, however, shorter than the other. A diaphragm diverts rain-water or moisture that enters the bell-shaped mouth to the discharge end of the ventilating tube, so that water cannot enter the space or apartment to be ventilated.

7,360. ATTACHING SASH-CORDS: *G. H. Evans.*—Instead of the cord being attached directly to the sash in the ordinary manner, it is, according to this invention, attached to a metal clip let into the usual groove in the frame, and fastened at the top side by screws. The sash pocket-holes are made with a rectangular metal frame, closed with a plate fastened with a turn button on the inside, actuated by a screw-driver from outside.

7,401.—ORNAMENTING SILVERED GLASS: *M. E. Webb.*—According to this invention, a floral, bird, or fruit study is selected, drawn in outline, then transferred with copying paper on to a piece of enamelled paper. The design is then placed on the unsilvered glass; the glass is silvered, the paper design removed, and the study substituted in the space and fixed by pressure.

9,066.—BALANCED WINDOW-SASHES: *T. H. Turner.*—The upper window-sash which is the subject of this patent acts as a counterbalance to the lower sash, and *vice-versâ*. A cord or chain is fixed in front or inserted at the side of the upper and lower window-sashes at corresponding corners. Each cord or chain passes over a suitable pulley which may be fastened to the side or top of the window-frame.

9,093.—WINDOWS: *S. Baxter.*—Instead of nailing the cord in the groove formed in the edge of the sash, a lever-catch, mounted upon a screw-stud in a recess, is formed to receive it in the edge of the sash. The shorter arm of this lever-catch is serrated at its extremity, and is held free from the sash framework so long as the sash-cord is intact; but if the cord breaks, then the serrated arm turns upon its axis and catches in the sash framework, locking the sash in position and preventing it from falling.

9,757.—TIMBER-DOG: *T. Mesham.*—This improved timber-dog is formed of two arms worked with a chain or wire rope, and fitted with a shoe on the ends of the arms to grip the material, instead of a long, sharp prong to pierce the sides of the timber as now in use. The principal object is to lift all kinds of timber securely and without injury.

NEW APPLICATIONS FOR PATENTS.

May 5.—7,717, F. Stokes, Treatment of Lime, Cement, &c., and Lining of Kilns and Furnaces for Burning Bastic Materials.—7,719, J. Melling, Joints for Pipes, &c.—7,727, D. & F. Platt, Dies for Making Dividable Tiles.—7,773, T. Catlow and A. Vass, Kiln for Burning Bricks, &c.—7,786, L. Murch, Preparing Wood for Ornamental and Decorative Purposes.

May 6.—7,812, M. Pinder, Inducing and Regulating Air Currents from Water-closet Basins to the Outer Air when Using Water-closets.—6,813, T. Thorp, Bit and Bit-holder for Working in Stone.—7,845, H. Faija, Continuous or Running Kilns for the Calcination of Cement.—7,848, J. Jeyes, Compound Applicable as Size, Cement, Paint, or Varnish.

May 7.—7,870, E. Sharp, Closets, Urinals, &c.—7,883, J. Southall, Flushing Cisterns.—7,885, C. Blount and others, Translucent Cloisonne Enamel.—7,887, J. Waterhouse, Chimney Cowls.—7,908, J. Bousfield, Stove Tiles, &c.—7,909, Craven, Dunnill, & Co., and F. Smith, Tiles, Ceramic, Mosaic, &c.

May 8.—7,947, A. Pain, Gas Fittings.—7,955, R. Lowe, Joints for Drain and other Pipes.—7,968, J. Hunter, Sash-fastener.

May 9.—8,012, A. Dittmer, Dressing Stone.

PROVISIONAL SPECIFICATIONS ACCEPTED.

4906, T. Hughes, Preventing Draughts and Rain from Entering Underneath Doors, &c.—5,149, J. Bengall, Chamfer Plane.—5,935, E. Devis, Casting Pipes, &c.—6,002, E. Edwards, Iron-heating Pipes.—6,091, C. Horton, Cottage Water-closets.—6,131, G. Hope, Winning or Getting Gravel, &c.—6,156, W. Herbert, Window-fastenings.—6,429, J. Hartley, Sawing Machines.—6,458, R. Wilson, Blues and Greens—Colour Pigments.—6,512, R. Richards, Stoves and Fireplaces.—6,549, S. Emery, Flushing Drains.—6,616, H. Thomas and J. Thomas, Fittings for Hanging Door Curtains or Screens.—6,981, W. Horn, Roofing Paper.—7,184, W. Horn, Artificial Stone.

COMPLETE SPECIFICATIONS ACCEPTED.

Open to Opposition for Two Months.

1,300, P. Rogers, Cowl or Chimney-pot for Curing Smoky Chimneys.—5,839, C. Tompson, Sanitary or Drainage Pipes.—5,962, H. Moir, Reversible Seats.

SOME RECENT SALES OF PROPERTY:

ESTATE EXCHANGE REPORT.

MAY 5.—By *Messrs. Cobb* (at Rochester): Freehold land, 5a. 3r. 7p., Maidstone-rd., Rochester, 2,500*l.*

MAY 11.—By *Eastman Bros.*: F.g.r. of 15*l.*, with reversion in 94 yrs., Lenham-rd., Lee, 360*l.*; f.g.r. of 41*l.*, with reversion in 94 yrs., Aislibia-rd., 965*l.*; f.g.r. of 20*l.*, with reversion in 93 yrs., Stralock-ter., Fulham, 480*l.*—By *L. Farmer*: F.g.r. of 18*l.* 10s., with reversion in 49 yrs., Walthamstow, 425*l.*—By *Harman Bros.*: 35, Park-av., Wood-green, u.t. 93 yrs., g.r. 8*l.* 10s., r. 42*l.*, 425*l.*; 58, Jenner-rd., Stoke Newington, u.t. 82 yrs., g.r. 7*l.*, 370*l.*; 4 and 9, Meynell-rd., Hackney, u.t. 65 yrs., g.r. 20*l.*, r. 95*l.*, 790*l.*; 24, Scarborough-rd., Tollington-pk., u.t. 86 yrs., g.r. 7*l.* 10s., r. 38*l.*, 395*l.*; 67, Tressillian-rd., Lewisham, u.t. 82 yrs., g.r. 8*l.* 10s., r. 63*l.*, 700*l.*—By *F. S. Priest* (at Hammersmith): 428, High-rd., Chiswick, f., area 1,921 ft., 760*l.*

MAY 12.—By *B. Brown*: 50 and 52, Mellish-st., Millwall, u.t. 67 yrs., g.r. 5*l.*, 450*l.*; 60, Mellish-st., u.t. 67 yrs., g.r. 2*l.* 15s., r. 32*l.* 10s., 225*l.*—By *Sherrin & Coltman*: 22 and 23, Laurence Pountney-lane, City, f., area 1,640 ft., 5,200*l.*—By *Rogers, Chapman, & Thomas*: 94, Warwick-st., Pimlico, u.t. 34 yrs., g.r. 8*l.* 10s., 550*l.*—By *T. Mitchinson*: 36, Senior-st., Harrow-rd., u.t. 68 yrs., g.r. 5*l.* 5s., r. 42*l.*, 360*l.*—By *Dowsett & Co.*: Three plots of land, 4 acres, f., Caversham, 265*l.*—By *D. Watney & Sons* (at Rochester): 5 to 9, Boley-hill, Rochester, Kent, f., r. 147*l.*, 1,900*l.*; enclosure of market garden land and buildings, 9a. 0r. 13p., f., Strood, Kent, 1,000*l.*

MAY 13.—By *Farebrother, Ellis, & Co.* (at Leicester): 4, 6, and 8, High-st., Leicester, area 229 sq. yds., f., 5,100*l.*—By *Alfred Watson*: 6, Townshend-rd., St. John's Wood, u.t. 15 yrs., g.r. 10*l.*, r. 45*l.*, 270*l.*; 40, Ordnance-rd., u.t. 43 yrs., g.r. 12*l.*, r. 50*l.*, 220*l.*; 17 and 18, Norfolk-rd., u.t. 43 yrs., g.r. 31*l.* 10s., r. 115*l.*, 730*l.*—By *R. Tidey & Son*: 12, Stamford-rd., De Beauvoir Town, u.t. 28 yrs., g.r. 1*l.*, r. 30*l.*, 250*l.*; 99 to 105 (odd), Church-rd., Islington, u.t. 46 yrs., g.r. 20*l.*, r. 178*l.*, 1,885*l.*; 1 to 4, Eleanor-villas, Wood Green, f., 680*l.*; 8, Dorset-st., Spitalfields, f., r. 35*l.*, 440*l.*—By *Norton, Trist, & Gilbert*: No. 217, and 2, Market-st., Edgware-rd., u.t. 37 yrs., g.r. 99*l.* 10s., 2,500*l.*; 77, New North-rd., Hoxton, u.t. 51 yrs., g.r. 6*l.* 6s., r. 48*l.*, 450*l.*; 3, Herbert-st., u.t. 51 yrs., g.r. 5*l.* 5s., r. 35*l.*, 365*l.*—By *D. Young*: 1 and 2, Maldon-villas, East Ham, f., r. 54*l.*, 575*l.*; 3, White Hart-buildings, Tottenham, u.t. 96 yrs., g.r. 15*l.* 15s., r. 52*l.* 10s., 345*l.*

MAY 14.—By *Farebrother, Ellis, & Co.*: The residence "Spencer House," and stabling, Streatham Common, f., 6,000*l.*; a piece of building land, area 2 r. 22 p., f., 1,000*l.*—By *E. Stimson*: 82, 84, and 118, Asylum-rd., Peckham, u.t. 57 yrs., g.r. 21*l.* 0s. 6d., 630*l.*; 2, 4, 6, 8, and 10, Meeting House-lane, u.t. 83 yrs., g.r. 30*l.*, r. 162*l.*, 1,200*l.*; 6, Camden-grove, u.t. 22 yrs., g.r. 4*l.* 13s. 4d., r. 30*l.*, 170*l.*; 42, Chantry-rd., Brixton, u.t. 81 yrs., g.r. 7*l.*, r. 36*l.*, 320*l.*—By *C. C. & T. Moore*: 47 and 48, Lessada-st., Bethnal-green, u.t. 41 yrs., g.r. 6*l.* 6s., 320*l.*; 42, Rook-st., Poplar, f., r. 15*l.* 12s., 115*l.*; 15, Essex-st., Mile End, f., r. 31*l.* 4s., 255*l.*; 119, Antill-rd., Bow, u.t. 55 yrs., g.r. 10s., r. 28*l.*, 335*l.*—By *H. J. Bliss & Sons*: 21, Ames-st., Bethnal-green, f., r. 13*l.*, 110*l.*; 22, 24, and 26, Buckhurst-st., f., r. 85*l.* 16s., 690*l.*; 2, Clarkson-st., f., r. 26*l.*, 270*l.*—By *F. S. Priest*: 23 and 25, St. Mary's-rd., Harlesden, u.t. 73 yrs., g.r. 10*l.*, 670*l.*—By *Newbon & Co.*: 5, Marquis-rd., Finsbury-pk., u.t. 75 yrs., g.r. 6*l.* 6s., 320*l.*

MAY 15.—By *Hince & Lewis*: Enclosure of market garden land, about 4 acres, f., Sunbury, 600*l.*—By *Baker & Sons*: 96a, 100, and 102, Newington Green-rd., and the "Weavers Arms" public-house, f., r. 390*l.*, Islington, 5,600*l.*—By *H. S. Woodcock*: 26, Chantry-rd., Brixton, u.t. 80 yrs., g.r. 6*l.* 10s., r. 35*l.*, 305*l.*: 34, Kay-rd., Stockwell, u.t. 80 yrs., g.r. 5*l.* 10s., r. 39*l.*, 280*l.*; 40, 42, and 44, Basnett-rd., Battersea, u.t. 78 yrs., g.r. 15*l.*, r. 104*l.*, 675*l.*—By *Humbert, Son, & Flint*: F.g.r. of 4*l.* 4s., reversion in 85 yrs., Knowsley-rd., Battersea, 90*l.*

[*Contractions used in these lists.*—F.g.r. for freehold ground-rent; l.g.r. for leasehold ground-rent; i.g.r. for improved ground-rent; g.r. for ground-rent; r. for rent; f. for freehold; c. for copyhold; l. for leasehold; e.r. for estimated rental; u.t. for unexpired term; p.a. for per annum; yrs. for years; st. for street; rd. for road; sq. for square; pl. for place; ter. for terrace; cres. for crescent; yd. for yard, &c.]

PRICES CURRENT OF MATERIALS.

TIMBER.		
Greenheart, B.G. ton	8/0/0	9/0/0
Teak, E.I... load	8/10/0	14/0/0
Sequoia, U.S.ft.cu.	2/3	3/0
Ash, Canada load	2/10/0	4/5/0
Birch, do.	2/5/0	4/5/0
Elm, do.	3/10/0	4/15/0
Fir, Dantzic, &c.	2/0/0	3/15/0
Oak, do.	2/10/0	4/10/0
Canada.....	4/17/6	6/10/0
Pine, Canada red	2/10/0	3/10/0
Do, yellow	2/0/0	5/10/0
Lath, D'ntzic, fath	5/0/0	6/0/0
St. Petersburg	5/0/0	7/0/0
Deals, Finland, 2nd & 1st std	100 7/15/0	10/10/0
Do, 4th & 3rd ..	7/5/0	8/5/0
Do. Riga	6/5/0	7/15/0
St. Petersburg, 1st yellow ..	9/15/0	14/10/0
Do. 2nd yellow	8/5/0	9/5/0
Do. white	6/15/0	10/10/0
Swedish	6/15/0	15/15/0
White Sea	8/5/0	17/5/0
Canada, Pine 1st	13/0/0	24/0/0
Do. do. 2nd....	9/0/0	15/10/0
Do. do. 3rd, &c.	6/10/0	10/0/0
Do. Spruce. 1st	8/15/0	11/0/0
Do. do. 3rd & 2nd.....	6/5/0	7/15/0
New Brunswick	5/5/0	7/5/0
Battens, all kinds	3/10/0	15/10/0
Flooring Boards, sq., 1 in. prep. 1st	0/10/0	0/14/0
Do. 2nd.....	0/9/0	0/10/6
Other qualities	0/5/0	0/7/6
Cedar, Cuba ..ft.	/4	/4½
Honduras, &c.	/4	/4½
Mahogany, Cuba.	/4½	/6½
St. Domingo, cargo av	/4½	/6½
Mexican do. do	/4½	/5½
Tobasco do. do	/5½	/7
Honduras do..	/5½	/6½
Box, Turkey ton	4/0/0	13/0/0
Rose, Rio.....	10/0/0	20/0/0
Bahia	9/0/0	18/0/0

TIMBER (*continued*).		
Satin, St. Domingo .....ft.	0/0/10	0/1/3
Porto Rico	0/0/10	0/1/6
Walnut, Italian..	0/0/3½	0/0/7
METALS.		
IRON—Bar, Welsh, in London..ton	6/5/0	6/15/0
Do. do. at works in Wales	5/15/0	6/5/0
Do. Staffordshire, in London	6/5/0	7/0/0
COPPER—British, cake and ingot	56/0/0	57/0/0
Best selected ..	59/0/0	60/0/0
Sheets, strong..	66/0/0	0/0/0
Chili, bars	52/10/0	0/0/0
YELLOW METAL lb.	0/0/6	0/0/6½
LEAD—Pig, Spanish ...ton	12/8/9	12/10/0
English, com. brands	12/10/0	12/12/6
Sheet, English, 3 lbs. per sq. ft. and upwards ..	14/10/0	0/0/0
Pipe	15/0/0	0/0/0
ZINC—English sheet .....ton	26/5/0	0/0/0
Vieille Montagne.....	26/15/0	0/0/0
TIN—Straits	90/10/0	0/0/0
Australian	90/15/0	0/0/0
English Ingots	94/10/0	0/0/0
OILS.		
Linseed .....ton	22/7/6	22/12/6
Cocoanut, Cochin	35/0/0	35/10/0
Do. Ceylon	29/0/0	29/10/0
Palm, Lagos	26/10/0	0/0/0
Rapeseed, English pale	31/0/0	31/5/0
Do. brown	29/10/0	0/0/0
Cottonseed ref...	21/15/0	22/0/0
Oleine	21/15/0	24/0/0
Lubricating, U.S.	6/0/0	7/0/0
Do. refined	7/10/0	12/0/0
TAR—Stockholm barrel	1/0/0	0/0/0
Archangel	0/13/6	0/0/0

TENDERS.

[Communications for insertion under this heading must reach us *not later than* 12 *noon on Thursdays.*]

CARDIFF.—For alterations and additions at the Roath Cattle Market, for the Corporation of Cardiff. Mr. W. Harpur, Borough Surveyor, Town-hall, Cardiff. Quantities supplied:—

Jno. Robbins	£1,258 0 0	James Allan.....	£1,016 0 0
Jno. Hopkins	1,250 0 0	Geo. Griffiths	998 18 6
Jno. Gibson	1,095 4 7	Burton & Co.....	983 5 11
Henry Davies	1,059 0 0	T. R. Waterman* ..	942 10 0
David Davies	1,057 0 0	* Accepted.	

[All of Cardiff.]

FOREST-GATE.—For constructing proposed swimming-baths at Woodgrange House, Forest Gate, for Mr. F. Craddock:—

I. Mansbridge	£3,050	Turtle & Appleton	£2,800
W. Goodwin	2,990		

GUILDFORD.—For additions to Archbishop Abbot's School, Northstreet, for the Trustees of the School. Mr. Wm. G. Lower, architect, 12, High-street, Guildford:—

J. Longley & Co.	£1,275	J. Crook & Son.....	£1,037
Morgan, Isted, & Morgan..	1,246	Robert Smith	1,027
T. E. Downes	1,190	Robert Wood	1,016
Higlett & Hammond.....	1,165	Mitchell Bros., Shalford, Guildford (accepted)	975
T. H. Kingerlee	1,119		
G. Strudwick	1,100		

HARROW.—For building pair of villa residences for Mr. H. J. Jackson. Mr. J. Hume, architect and surveyor, King-street, Hammersmith:—

G. A. Allen	£740	T. Barber	£714

LEICESTER.—Accepted for main sewerage and sewage-disposal works, for the Corporation of Leicester. Mr. E. G. Mawbey, Borough Engineer and Surveyor:—

Main Sewerage.

S. & E. Bentley, No. 8 Contract..... £28,342 0 0
S. & E. Bentley, No. 10 Contract 14,306 0 0

Sewage Distribution Works, Beaumont Lodge Farm.

S. & E. Bentley, No. 3 Contract..... £11,330 0 0

LONDON.—For the erection of a school to provide accommodation for 1,200 children on the site in Lillie-road, North End-road, Fulham, and also for the erection of a schoolkeeper's house with a room underneath suitable for technical purposes, for the School Board for London. Mr. T. J. Bailey, Architect:—

J. T. Chappell	£22,083	C. Cox	£20,993
Shillitoe & Son	21,570	J. Boyce	18,922
Hart Bros.	21,543	J. Bull, Sons, & Co., Lim., Southampton*	18,794
Hobbs & Co., Lim	21,461		
S. & W. Pattinson.....	21,083		

* Recommended by the Works Committee for acceptance.

LONDON.—For providing and fixing heating apparatus, on the low-pressure hot-water system, for the enlargement of the Westville-road School, Shepherd's Bush, which is now in course of erection, for the School Board for London. Mr. T. J. Bailey, Architect:—

John Grundy.....	£320 0	Rosser & Russell, 22, Charing-cross, S.W.* ..	£240 0
Comyn Ching & Co.....	298 10		
Jones & Attwood	295 0	* Recommended by the Works Committee for acceptance.	
J. Wontner-Smith, Gray, & Co.....	274 0		

LONDON.—For the enlargement of the Halford-road School, Walham Green, by 400 places, for the School Board for London. Mr. T. J. Bailey, Architect:—

Treasure & Son	£2,598	J. Derry	£2,335
J. Willmott & Sons	2,527	W. H. Lorden & Son	2,215
Lathey Bros.....	2,483	Co-operative Builders, Ltd., Burton-road, Brixton*..	2,064
F. J. Coxhead	2,411		
W. Gregar & Son.....	2,372		

* Recommended by the Works Committee for acceptance.

LONDON.—For a two-ton portable steam crane, including about 80 ft. of tramway, to be supplied to the Vestry of Fulham. Mr. James P. Norrington, C.E., Surveyor:—

J. H. Wilson & Co.	£600	Grafton & Co.	£470
J. Booth Bros.....	585	J. Jessop & Co.	465
J. Gibb & Co.	475	H. J. Coles	415

LONDON.—For rebuilding part of Sylvan Cottage, Hornsey-rise. Mr. George Carter, architect, 513, Holloway-road:—

R. J. Lowns & Sons (accepted)..... £695 0 0
(Inclusive of cellars.)

LONDON.—For making up the following roads for the Vestry of Fulham. Mr. W. Sykes, New Streets Surveyor:—

	Broomhouse-road.				Cassidy-road (Sec. III.).			
	R.	Y.	V.	I.	R.	Y.	V.	I.
	£	£	£	£	£	£	£	£
Nowell & Robson.....	429	282	—	—	304	187	—	—
T. Adams	477	287	252	233	324	189	166	153
Tomes & Wimpey	471	301	285	270	363	211	200	189
Imperial Stone Co.....	—	—	—	212	—	—	—	142

R.—All work except the actual paving. Y.—York stone paving. V.—Victoria stone paving. I.—Imperial stone paving.

LONDON.—For erecting brewery tap, Upper Kennington-lane, Vauxhall, for the New London Brewery Company, Limited. Mr. Wm. M. Brutton, architect, 1, Catherine-street, Strand, W.C.:—

D. Charteris	£2,590	W. Rowe	£2,000
T. Hooper	2,500	Wm. Smith	1,815
G. S. Archer.....	2,150	Romaine (accepted)	1,765
G. Ford	2,045		

LONDON.—For taking down and re-building the "Old Friends" beerhouse, and two shops adjoining, Lower Woolwich-road, S.E., for the New London Brewery Company, Limited. Mr. Wm. M. Brutton, architect, 1, Catherine-street, Strand, W.C.:—

T. Hooper	£3,323	Wm. Smith	£2,385
G. Ford	2,870	Romaine.....	2,300
G. S. Archer.....	2,630	Bridle (accepted at £2,032).	2,100
W. Rowe	2,587	D. Charteris (withdrawn)..	2,032
T. C. Smith	2,469		

LONDON.—For building three shops on forecourts, Fulham Palace-road, Hammersmith, for Mr. Atkinson. Mr. J. Hume, architect and surveyor, King-street, Hammersmith:—

H. Hayward.....	£162	H. E. Tomes.....	£133

LONDON.—For building three shops on forecourts, Bridge-road, Hammersmith, for Mr. T. B. Jones. Mr. J. Hume, architect and surveyor, King-street, Hammersmith:—

J. J. Bryant.....	£393	H. E. Tomes.....	£318
		Plumridge & Thomas	£297

LONDON.—For alterations and repairs to the "Duke of York" public-house, St. Ann's-terrace, St. John's Wood, N.W., for Mr. R. Cooper. Messrs. Saville & Martin, architects, 86 and 87, Strand. Quantities supplied by the architects:—

G. E. Todd.....	£1,098	E. Toms	£911
N. Schlater	996	Gould & Brand	897
S. Goodall	984	Burton & Sons	896

Pewterer's Work.

T. Heath.....	£125	Sanders & Sons	£105
Watts & Co.	124	F. J. Ruse	103

LONDON.—For alterations and repairs to the "Dolphin" public-house, Union-street, Borough, S.E., for Mr. E. Little. Messrs. Saville & Martin, architects, 86, Strand. Quantities supplied by the architects:—

C. Tunmore	£498	B. Cooke	£395
Sanders & Sons.....	493	Spencer & Co.	354
Vears & Co.	429	C. H. Bates	349

LONDON.—For pulling down old buildings in Burdett-street, Westminster Bridge-road, and erecting foundry and warehouse, setting smelting furnaces, and building two new shafts, for Messrs. R. F. Dale & Co., 100, Westminster Bridge-road, S.E. Drawings and details by Mr. J. Evans, Hoxton:—

Evans & Co., 28, Tavistock-place, W.C. (accepted).. £900 0 0
[Two other tenders.]

LONDON.—For rebuilding the "Grecian" Restaurant, 228, Strand, W.C., for Mr. R. Baker. Messrs. Saville & Martin, architects, 86, Strand. Quantities supplied by the architects:—

W. Shurmur	£5,678 0	G. H. & A. Bywaters ..	£4,818 0
E. Toms	5,315 0	Gregory & Co.	4,806 0
S. Goodall	5,254 0	Gould & Brand	4,744 0
Ashby Bros.	4,862 0		

Pewterer's work.

J. Edwards.....	£337 0	F. J. Ruse	£289 5
T. Heath.....	297 0	Sanders & Sons.....	252 10
W. Helling.....	289 10		

Gasfitter's work.

J. Dodson	£225 0	E. Pragnell.....	£192 0
W. Heath	223 0	J. Biggs	178 19

LONDON.—For rebuilding the "Star and Garter" public-house No. 13, Green-street, Leicester-square, W.C., for Mr. J. F. O. C. Wood. Messrs. Saville & Martin, architects, 86, Strand. Quantities supplied by the architects:—

S. Goodall	£3,750	F. Saunders	£3,510
R. Perkins.....	3,635	Spencer & Co.	3,450
J. Anley.....	3,538	D. Payne	3,421
T. Green.....	3,522	Gould & Brand.....	3,230

Pewterer's work.

Watt's & Co.....	£208 15 0	F. J. Ruse.....	£181 0 0
T. Heath	185 0 0	Sanders & Sons	177 10 0
W. Helling	181 0 0		

LONDON.—For painting and repairs to the "Load of Hay" public-house, Praed-street, Paddington, W., for Mr. R. Baker. Messrs. Saville & Martin, architects, 86, Strand:—

W. Heavens	£209 12 3	W. Oldrey & Co.	£137 0 0
W. Langridge & Sons..	145 0 0	W. S Lane	125 0 0

LONDON.—For painting and repairs to the "Duke of York" public-house, Victoria-street, Pimlico, S.W., for Mr. R. Baker. Messrs. Saville & Martin, architects, 86, Strand:—

W. Heavens	£171 10 0	W. Langridge & Co. ..	£105 0 0
H. B. Oldrey.....	125 0 0	W. S. Lane	80 10 0

LONDON.—For repairs to houses for the Lambeth Estate Company. Messrs. Ayres & Ardron, architects, 8, Southampton-street, Bloomsbury-square, W.C.:—

Puzey & Lumley	£7,042	Young & Lonsdale	£4,907
Nightingale	6,336	Holliday & Greenwood* ..	4,888
Thos. Turner, Lim.	5,691	* Accepted.	

LONDON.—For alterations, &c., at Newtonwards, Cholmeley Park, Highgate, for Mr. J. Wilkinson. Mr. E. B. l'Anson, architect, 7a, Laurence Pountney-hill, E.C.:—

Lidstone	£286	Young & Lonsdale	£216
Brown	232	Stevens Bros.	195

LONDON.—For new entrance and foyer, with alterations to grand staircase, at the Royal Surrey Theatre, Blackfriars-road, for Messrs. Samblin & Burdett. Mr. George Carter, architect, 513, Holloway-road:—

R. Wood (accepted) £1,395 0 0

LONDON.—For making-up, paving, &c., Richmond-road and Addison-gardens, in the parish of Hammersmith, for the Vestry. Mr. H. Mair, Surveyor:—

W. Neave & Son	£581	Nowell & Robson	£560
Tomes & Wimpey	574	Rogers	458

LONDON.—For rebuilding No. 28, Whitcomb-street, Haymarket, for Messrs. Relleen & Jenkins. Mr. Wm. M. Brutton, architect, 1, Catherine-street, Strand, W.C.:—

G. Ford	£553	G. S. Archer	£545
Lorden & Son	549	R. C. Scutt	500

LONDON.—For alterations and additions to "The King's Arms" public-house, Lower Kennington-lane, S.E., for Mr. E. H. Lewis. Mr. Wm. M. Brutton, architect, 1, Catherine-street, Strand, W.C.:—

R. Crook	£592 10	G. Picton*	£3 1
R. F. Saker.....	552 0	* Accepted.	

LONDON.—For shop-fittings, 219, Blackfriar's-road, for Mr. J. S. Robinson. Mr. E. J. Strevens, architect, 33, Talfourd-road, Camberwell, S.E. :—

	Walnut and Teak with Ebonized Mouldings.	Ebonized Mahogany and Gilt Mouldings.	Mahogany.	Pitch-pine with Mahogany Mouldings.
Sage & Co.	£457	£432 15	£469 10	£396
King and Son	450	435 0	—	415
Whitehead & Co.	—	—	395 0	—
Bright & Co.	395	—	—	380

LONDON.—For alterations and repairs to 17 and 19, Featherstone-street, City-road, E.C. Mr. Wm. M. Brutton, architect, 1, Catherine-street, Strand, W.C. :—

G. Picton	£365	G. S. Archer	£300
E. & F. Parsons	315		

LYNDHURST (Hants).—For building powder magazine at Eyeworth Lodge, near Lyndhurst, Hants, for the Schultze Gunpowder Company, Limited. Messrs. Lemon & Blizard, engineers, Southampton :—

G. A. Bartleet	£395 0 0	Francis Reeks	£340 0 0
John Crook & Son	389 0 0	Francis Walter	320 0 0
C. Mitchell	380 0 0	Joseph Butt Fitzhugh, Southampton*	299 15 7
J. W. Roe & Co.	350 0 0		

* Accepted.

NORWOOD.—For re-erecting the "King's Head" public-house (exclusive of fittings), for Mr. W. Wood. Mr. E. J. Strevens, architect, 33, Talfourd-road, S.E. :—

W. Martin £2,800 0 0

[No competition.]

PLUMSTEAD.—For alterations and additions to the "Lord Raglan" public-house, Burrage-road, Plumstead, for Mr. D. Jenkins. Mr. E. J. Strevens, architect, 33, Talfourd-road, Camberwell, S.E. :—

J. Yates & Co.	£1,122	King & Son	£900
G. W. Ford	1,048	Alex. Mackie	834
J. H. Pugh	930		

PLYMOUTH.—For the erection of business premises, exclusive of painters' and glaziers' work, Tavistock-road, for Mr. R. F. Roper. Mr. Jas. Harvey, architect, Bedford-chambers, Bedford-street, Plymouth. Quantities by the architect :—

Wm. Trivena	£1,365	Palk & Partridge, Plymouth*	£1,327
Saml. Roberts	1,348		
A. N. Coles	1,329		

* Accepted.

SEAFORD.—For the construction of about 400 yards of pipe sewers, with manholes, &c., for the Local Board :—

C. Morling, Seaford (accepted) £175 0 0

SHEFFIELD.—For erecting lodge, refreshment pavilion, &c., at Endcliffe Woods, Sheffield, based upon plans, specifications, &c., prepared by Mr. C. F. Wike, C.E., Borough Engineer :—

C. Chadwick	£1,658 0 0	J. Holmes	£1,486 7 0
J. Morton	1,645 18 6	Lowe & Son	1,439 14 0
Mastin & Sons	1,561 16 8	Ash, Son, & Biggin, Sheffield*	1,387 0 0
E. Gabbutt	1,530 11 10		
T. Roper	1,517 0 0		

* Accepted.

SOWERBY BRIDGE.—For widening and improving an iron bridge at Mearclough, for the Local Board of Sowerby Bridge. Mr. Fredk. Rothera, Surveyor, Town-buildings, Sowerby Bridge. Quantities supplied :—

Goddard, Massey, & Warner, Nottingham (accepted) £516 1 0

STOKE-UPON-TRENT.—For the erection of a house, stabling, &c. for Dr. W. Hind. Messrs. R. Scrivener & Sons, architects, Hanley, Staffs. :—

Price	£2,023	Bennett	£1,729
Breeze	1,838	Gallimore, Newcastle*	1,699
Tomkinson & Betteley	1,797	Cartledge	1,648
Inskip	1,793	Hancock	1,640

* Accepted.

STONE (Staffs).—For erecting villa residences, for Mr. H. Overton Jones. Mr. Edwin Penn, architect, Stoke-upon-Trent :—

T. R. Yoxall, Stoke-upon-Trent (accepted) £1,230 0 0

TOTTENHAM.—For the erection of two shops, for Mr. J. W. Seabrook. Messrs. Hodson & Whitehead, architects, 7, Finsbury-square :—

F. Voller	£1,440 0 0	C. J. Dye	£1,130 0 0
C. C. Payne & Son	1,187 10 6	Jesse Chessum & Son	1,095 0 0
R. Maskall	1,125 0 0	M. A. Brown & Co.*	1,080 0 0

* Accepted.

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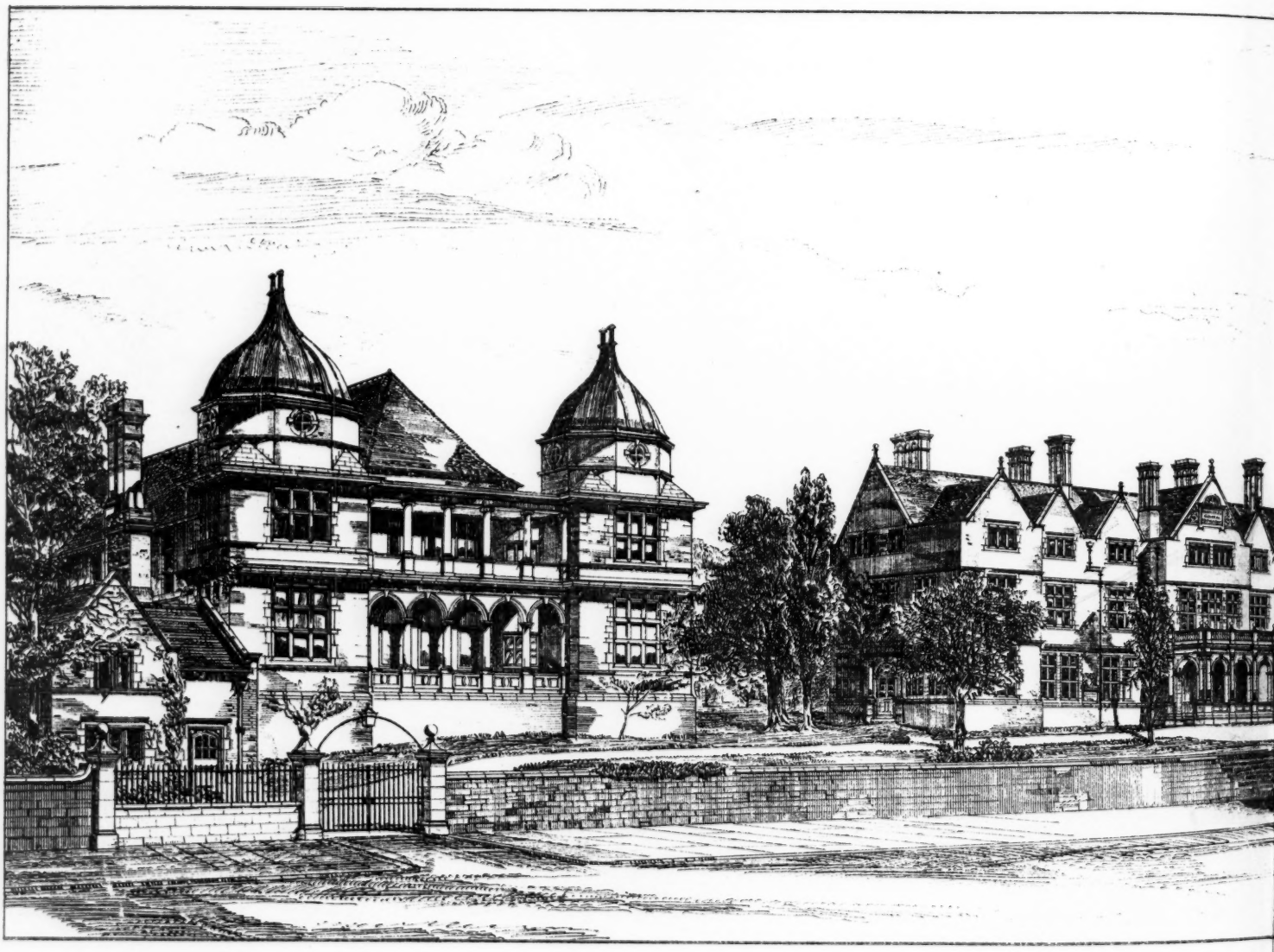

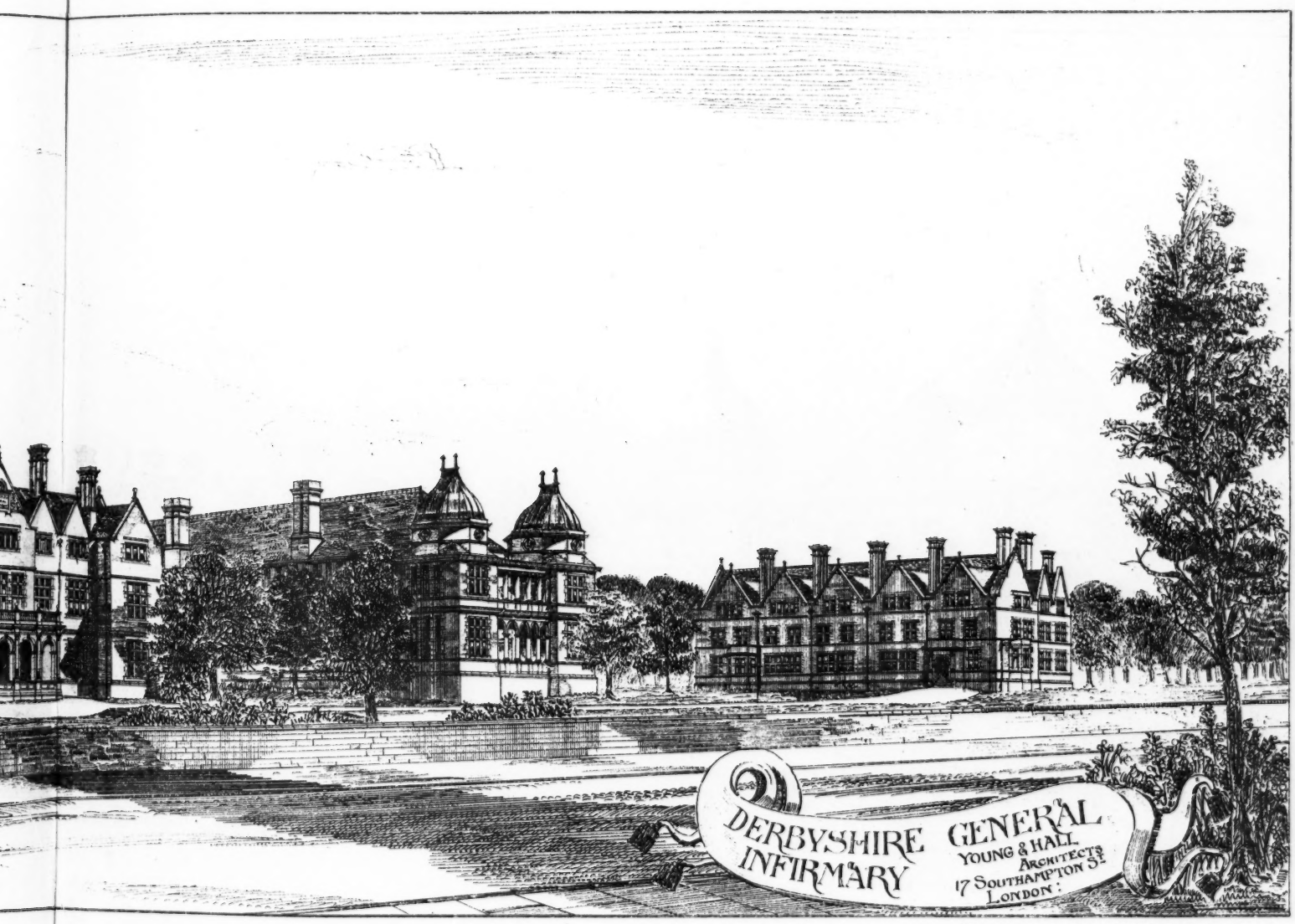

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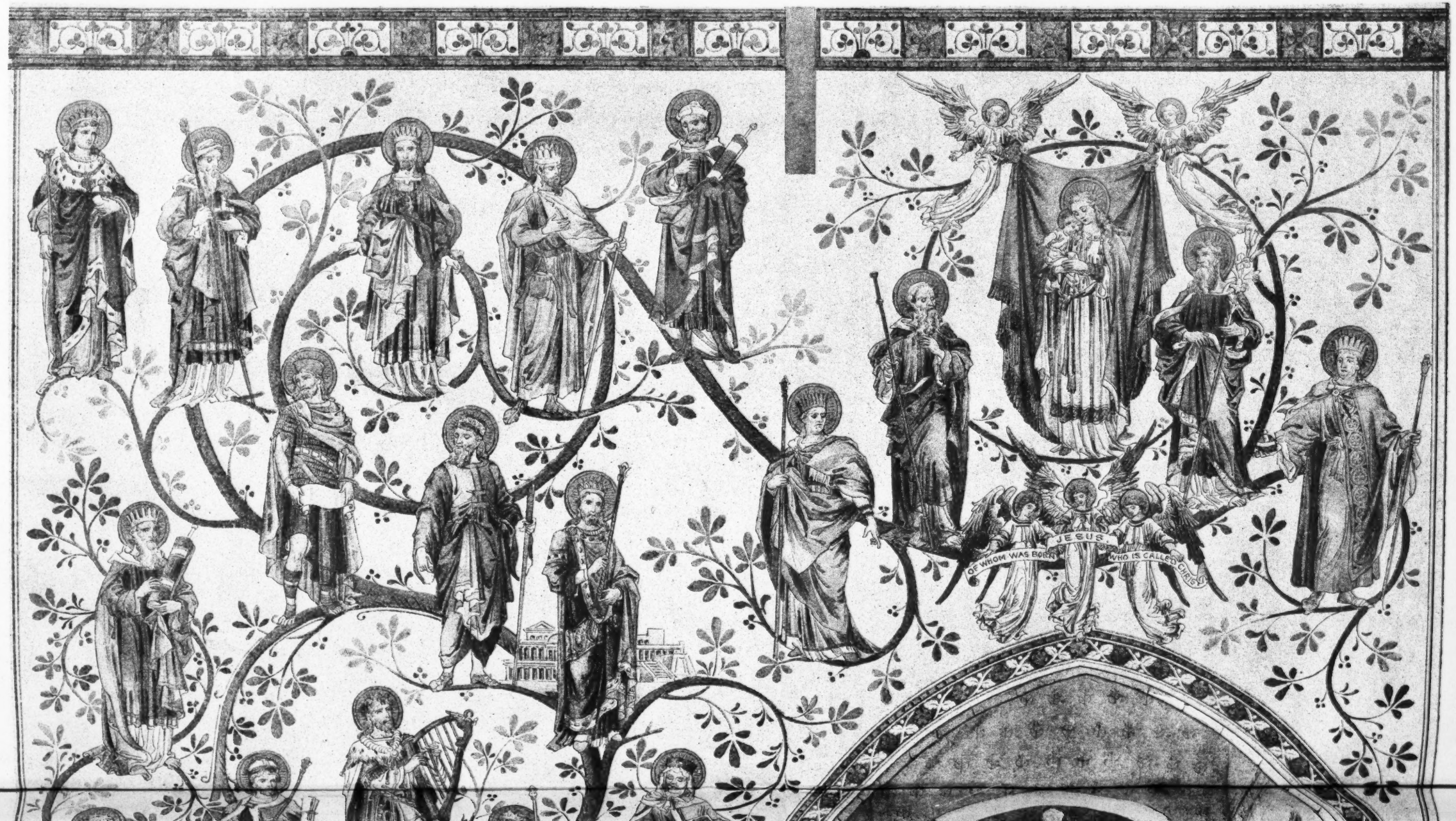
No. 1780, Royal Academy Exhibition, 1891.


OF WHOM WAS BORN
JESUS
WHO IS CALLED
CHRIST

ST. MARY'S CHURCH, NEWBURY.

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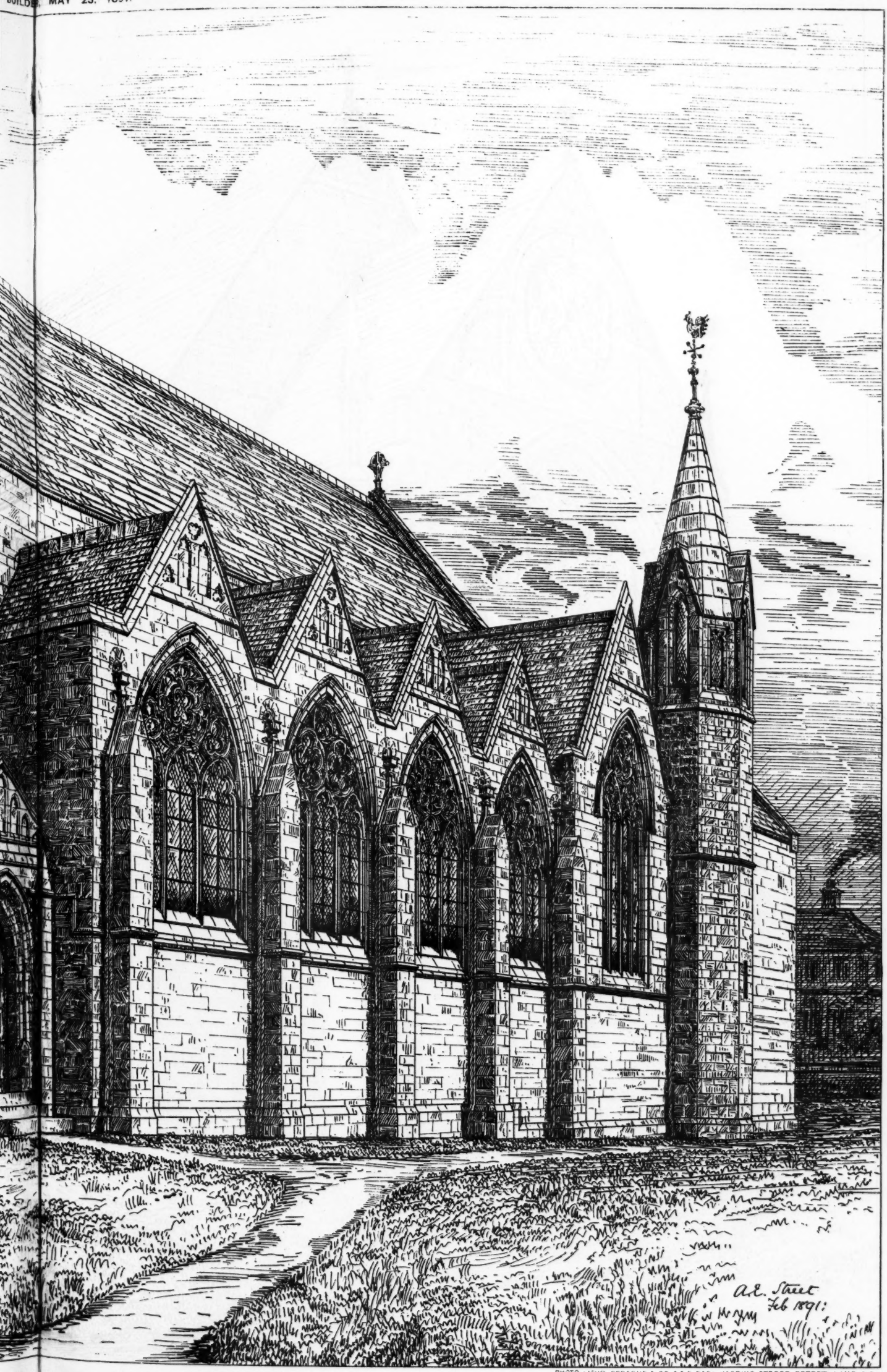

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